a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

NOVEMBER, 1956

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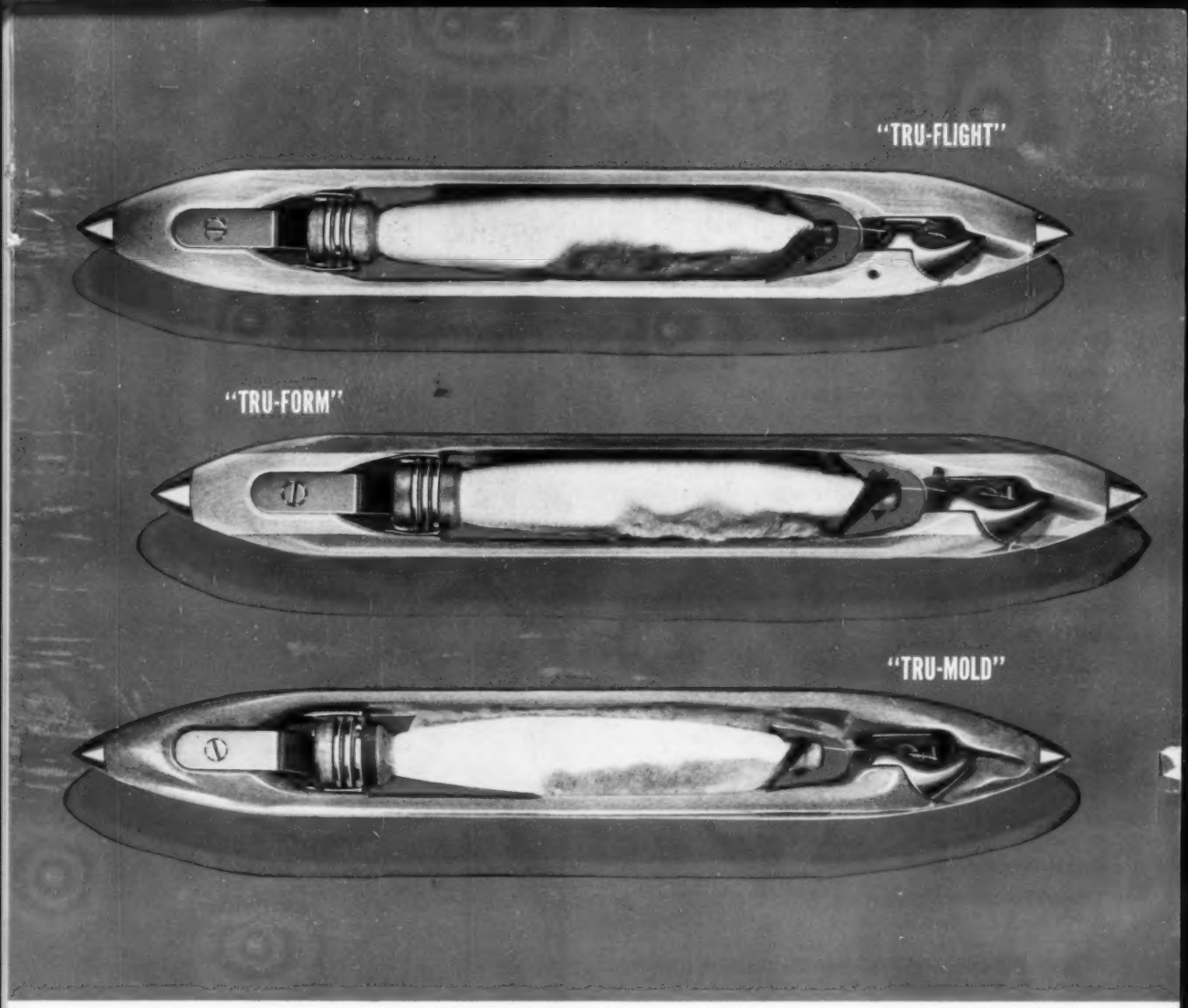

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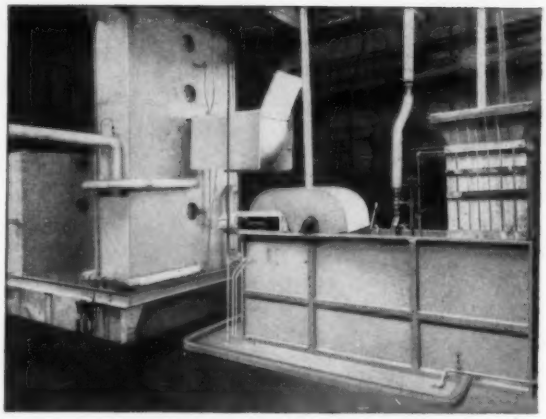
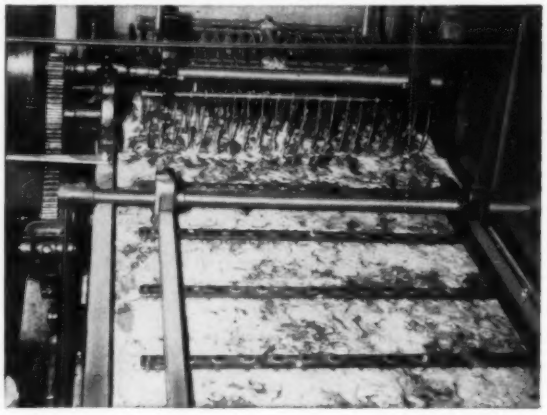


Saturator and section of J-Box where Becco Hydrogen Peroxide is used for bleaching of cotton at Millville Manufacturing Company, Millville, New Jersey.

Wool scouring range at James Lees and Sons Company. Hydrogen Peroxide is widely used for the bleaching of wool in all forms.



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Textile Industries

Formerly "COTTON"

Vol. 120, No. 11
November, 1956

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EDITORIAL AND EXECUTIVE OFFICES: 806 Peachtree St., N. E., Atlanta 8, Georgia

J. Frank Guest, *Managing Editor*
George H. Dockray, *Executive Editor*

Milton C. May, *Associate Editor*, P. O. Box 441, Kings Mountain, N. C.
Stanley M. Suchecki, *Associate Editor*, P. O. Box 131, New Canaan, Conn.

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Business Representatives In U. S. A.

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Shorts and Remnants

by J. C. C.

► Old S&R has just been to New York. For the benefit of those who don't know about N. Y. — it's a right big piece of land in the northeast part of the U.S.A. inhabited by over eight million (more or less) human beings, where time and money are fleeting — in fact, they don't seem to know what those figures are in those little paper bills we use at the grocery store. We'd even bet that Confederate money would fetch par there quicker than in Mississippi. Anyway, S&R has been there and got a swell idea how to make a lot of money.

All we have to do is to find some good auto dealer or jobber with a lot of those squirrel tail ornaments left over from a few years back and sell them for women's hats — only trouble is we got rudely awakened from dreams of yachts and mansions by a realistic soul who told us that Davy Crockett and Estes Kefauver used up all the squirrel, coon, and miscellaneous tails; women's hats will have to go on their merry way adorned only by ostrich and peacock feathers billowing out over the landscape.

Anyway it might not last. It has always been thus. Anybody who can furnish all the words to "The Pretty Little Bird on Nelly's Hat" gets an extra buck on his old age pension.

► And here we come into November and good old Thanksgiving — turkey and all. Thanksgiving is prob-

ably the oldest of U.S.A. holidays, dating back, they say, to the harvest feast of the Pilgrims in September, 1621, at Plymouth, Mass. The early settlers had had a rough year, but survived; so they got the friendly Indians in and loaded the tables with game, fish, wild fruit, corn bread, vegetables, and plenty of roast tur-

(Continued on page 8)

ROBERTS 25 SPINNING FRAME

- 25 inches wide
- 25% more yarn from same floor space
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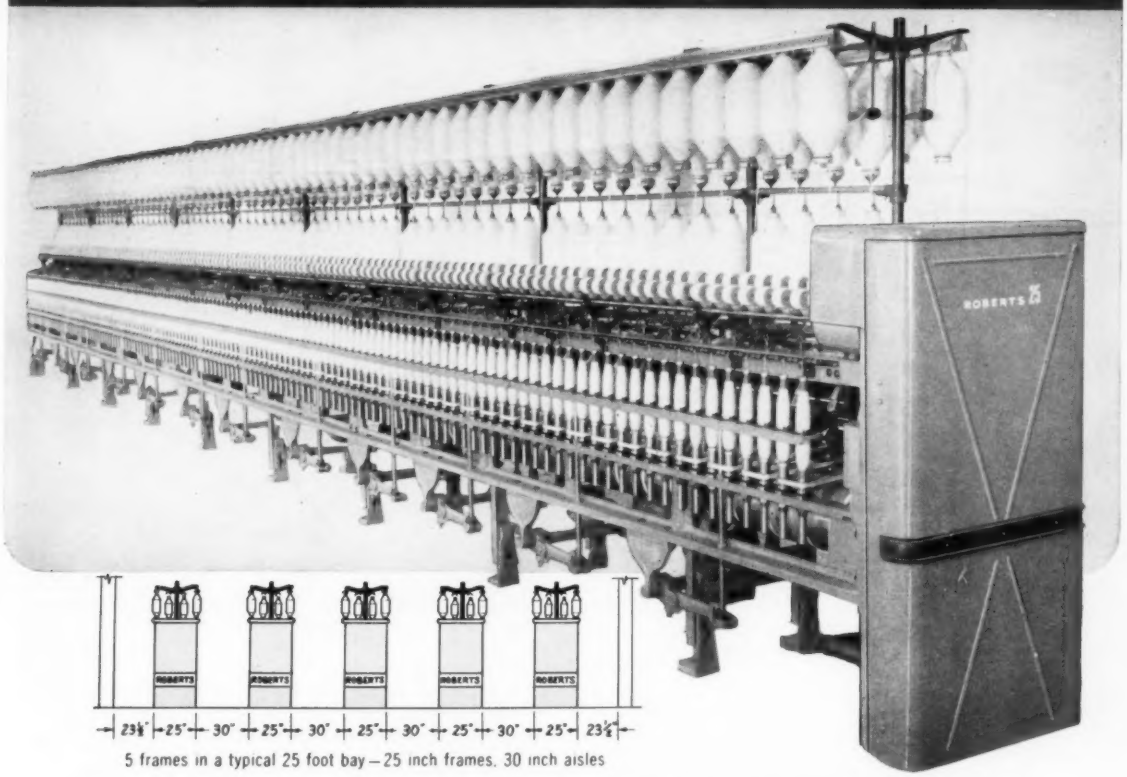
- 25% saving in building and utility cost



5 frames in a typical 25 foot bay—25 inch frames, 30 inch aisles

TRIED AND PROVEN. The Roberts 25 Spinning Frame is simple and straightforward, free from radical innovations or gadgets. It embodies all the tried and proven features most wanted in a modern spinning frame giving highest production and lowest maintenance.

ROBERTS DRAFTING. Roberts Double-Apron Drafting produces highest break factors, best yarn evenness and lowest ends down in a range of drafts from 10 to 60, for yarn numbers from 2's to 100's, in cotton, synthetics or blends.

SMALL, MEDIUM OR LARGE PACKAGES. The Roberts 25 Spinning Frame is available in gauges from 3 inches to 4½ inches and can be arranged for direct filling on 8 or 8¾ inch quills or for warp up to a 3 inch ring and 12 inch bobbin.

ALL BALL BEARING HEAD. The all ball bearing head design is outstanding in its simplicity and flexibility. Thirty greased-for-life ball bearings of one size are used and all plain bearings and studs eliminated. All gears in the head are hardened and have one pitch, one width, one bore and one size key, making them completely interchangeable. Two wrench sizes fit all shafts and tightening points. Draft Constant can be varied simply from 400 to 3200 and Lay adjusted for coarse or fine numbers by a simple gear change.

STANDARD FEATURES

Included as standard equipment are Roberts Ball Bearing Spindles, Roberts built-in Suction Cleaning, Roberts AeroCreels and 8 inch Cylinder Drives.

COMPARE ALL 3

For high production, top yarn quality, large packages, low maintenance expense, dependability—and, at the lowest investment per spindle—Roberts Spinning is second to none in America today.

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"... too much softener ..."

Too much softener or too little softener could affect Si's experiment and your warps. Too much or too little of some 75 chemicals could also cause trouble, but 52 years of experience have taught the Seyco man just how much of each to use for various constructions.

You don't have to worry about the chemicals; that's our job. Just apply gently and watch the cloth go by.

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Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

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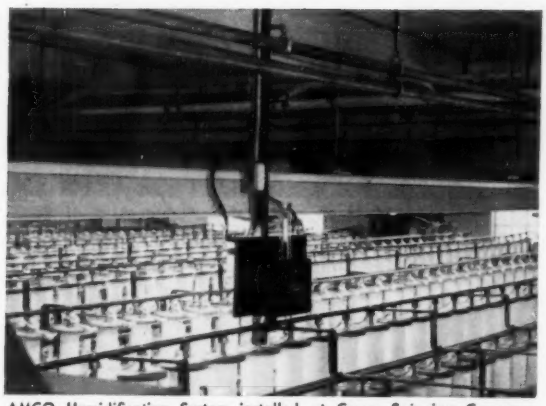
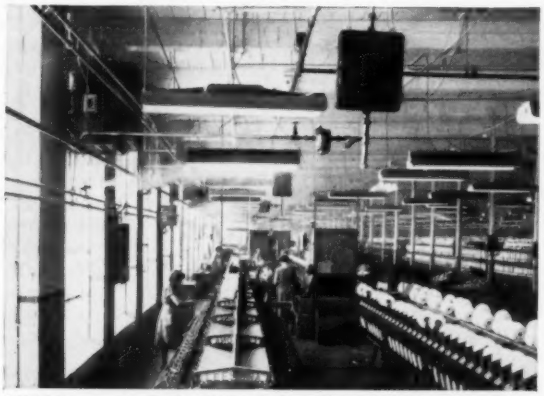
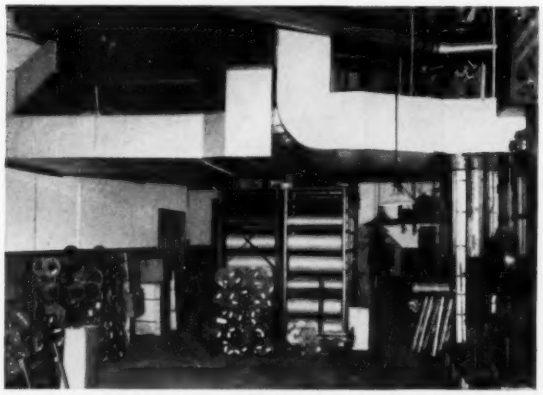


AMCO Humidification System installed at Caron Spinning Company, Robesonia, Pa. The highly sensitive AMCO Cyclestat Control holds humidity within narrow limits.



AMCO Evaporative Cooling System in Texas Textile Mills, McKinney, Texas. Note window units which control mixture of fresh and recirculated air.

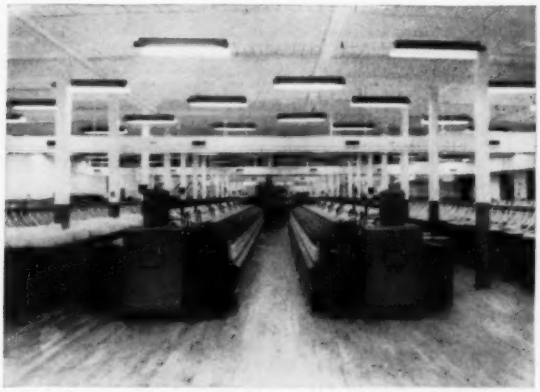


AMCO Unit Dry-Duct System at The Windsor Manufacturing Company, Philadelphia, Pa. The entire unit is installed overhead out of the way.

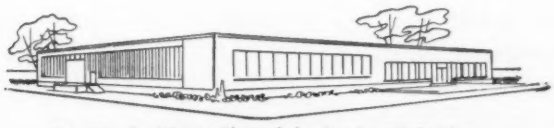
There's an AMCO AIR CONDITIONING SYSTEM designed for YOU!

When you think of air conditioning, remember that AMCO offers systems and equipment for every manufacturing requirement and every climatic condition. There are four different types of AMCO systems, alone or in combination: humidification, evaporative cooling, unit dry-duct, or central station air conditioning. And because AMCO engineers have these four basic systems — plus all associated equipment and controls — they are able to offer you unbiased advice on the *best* system for your particular need.

If you want the facts about textile mill air conditioning, with the advantages and limitations of each system detailed, as well as answers to such questions as cost, adaptability, capacity, maintenance and operating expense, write for AMCO's booklet, "AIR CONDITIONING for the TEXTILE INDUSTRY". Or better still, ask AMCO to recommend, without obligation, the system best suited to your mill.



AMCO Central Station Air Conditioning in the Roving Dept., Highland Park Mills, Charlotte, N. C. This is AMCO's highly efficient split-system.



New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work-and sheet metal products.

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Shorts and Remnants

(Continued from page 4)

key, for there was plenty of "wild fowle" around.

In fact, it seems that the turkey is a North American bird, having been found here by the Spaniards when they conquered Mexico and taken back to Europe and brought back by the Colonists.

Anyway, they had turkey at the first Thanksgiving in 1621, and we still have it today. And if you want to know any more about Thanksgiving, look it up in the encyclopedia. George Washington issued a proclamation proclaiming Nov. 26th, 1789, a day of National Thanksgiving for the newly independent United States, and we didn't get around to setting it up as a National holiday until, believe it or not, old Abe Lincoln in 1864 set up the last Thursday in November as a day for celebrating the victories of the Union against "the enemy who is of our own household."

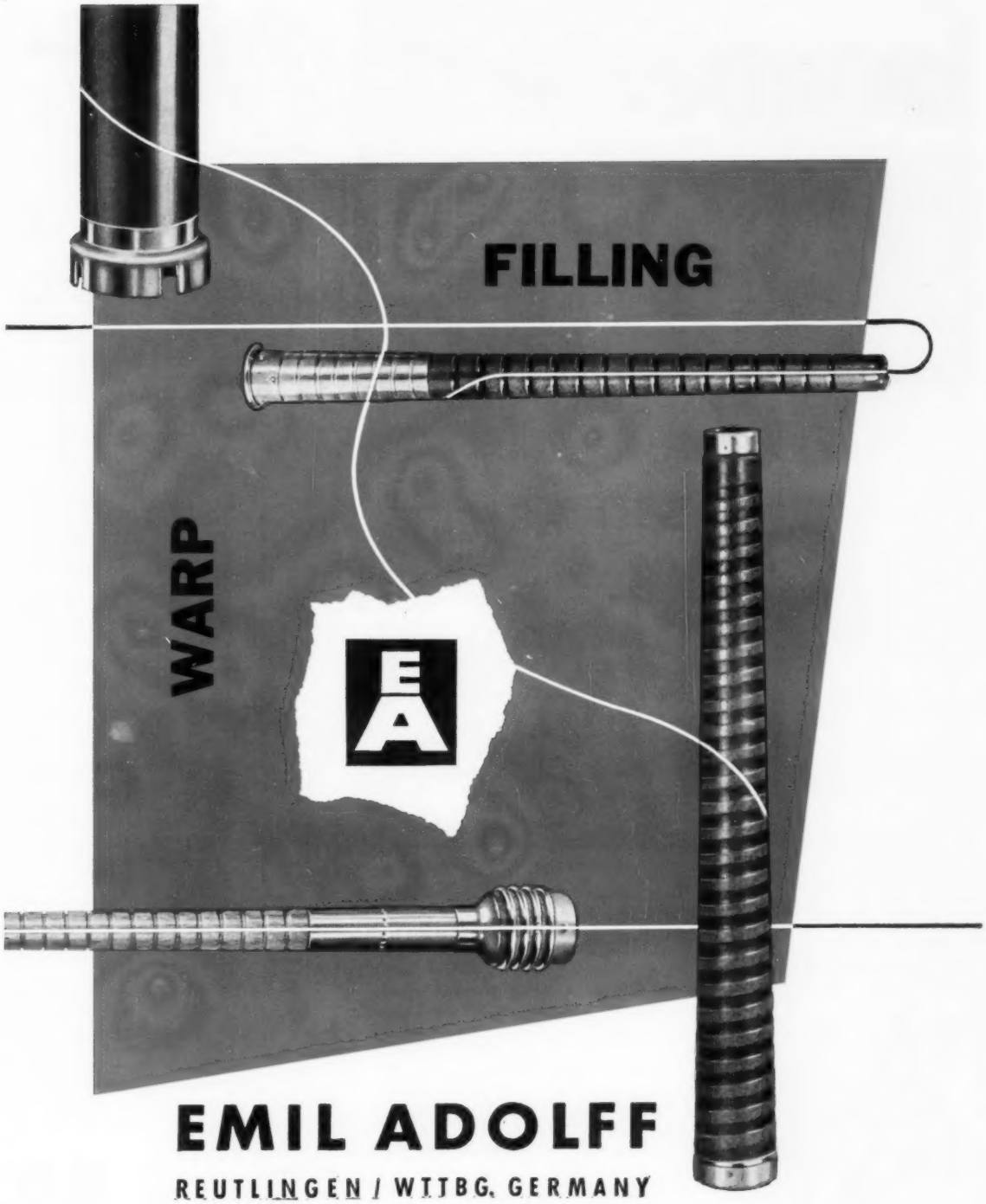
So that is that for Thanksgiving, except we want to say "Thank you" again in 1956 from T. I. and from Ole S&R and all our staff to you good readers for your support and to you good advertisers whose dough makes these pages possible.

"May their tribe increase."

► You can depend upon T.I. This here is no "meat ball" publication. It reaches out to "influence." For example, you can't tell us that the Miss America judges at Atlantic City didn't get a good tip from reading Sept. T.I. (p.77) where Miss Marion McKnight was shown burning 350 dozen factory reject nylon hose. We

still think she will help the hosiery industry in more ways than this.

► Say, did you have as much trouble as Ole S&R finding the rest of that "Prepackaging" article in our September issue (pages 130-131)? It puzzled our editors, too. Believe it or not, we had them searching for nearly an hour. Finally, one of them



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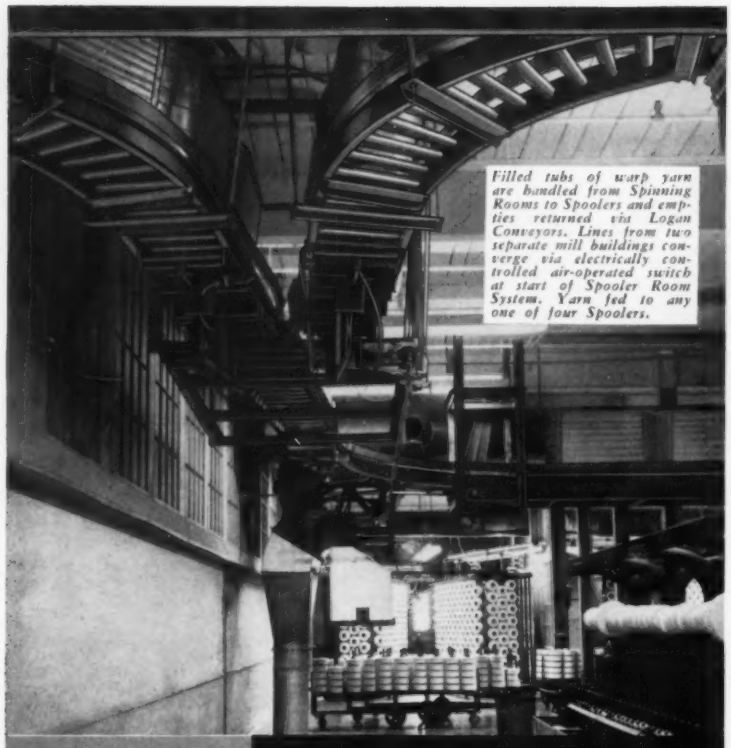


Filled tubs of warp yarn are handled from Spinning Rooms to Spoolers and empties returned via Logan Conveyors. Lines from two separate mill buildings converge via electrically controlled air-operated switch at start of Spooler Room System. Yarn fed to any one of four Spoolers.

The LEADERS use Logan

Small business today . . . large business tomorrow. In this country we don't have to "stay put." Development and growth are characteristics of American industrial leaders. An important factor is the insistence on highly efficient material handling methods. Take Logan Conveyors. The nation's foremost industries use this equipment to step up production tempo, enlarge capacity, improve deliveries, conserve manpower. These are Logan functions which you, too, can use profitably. Write for nearest engineer or for further information.

LOGAN CO., 206 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

Shorts and Remnants

looked up and with a sigh of relief said, "Here it is on page 163. Occasionally," he continued (blushing a deep shade of red), "we leave a jump line off just to tease our readers." Now wouldn't you know an editor would never admit he just plain forgot to tell the printer to set that continuation note?

► However, speaking of editors, we'd like to introduce a nice guy, whom our friends in New England and the Middle Atlantic States will be seeing a lot more of. T.I.'s new associate editor up that way is Stanley M. Suchecki, who comes to us

Stan Suchecki

from Hampton Mills, Inc., Easthampton, Mass., where he was concerned with quality control and process development.

Stan got his B.S. in Textile Engineering from Philadelphia Textile Institute, and in addition to his experience with Hampton Mills, he has also served as a sales representative for American Aniline Products, Inc., and as a research and development chemist for Stein, Hall & Co., Inc.

Stan has managed to remain maritally uncommitted, and maintains his bachelor quarters in New Canaan, Conn.

► By the way, it looks as if textile folks still like Ike in spite of GATT, Japanese imports, and all of the other plagues. Remember our mention of the straw poll of the textile industries being conducted by Star Woolen Co. (TI for October, 1956, p. 6)? This was the result when we went to press:

	Ike	Adlai	Other
New England	87.3%	12.3%	0.4%
Middle Atlantic	73.2%	26.3%	0.5%
Southern	77.0%	21.0%	2.0%
Midwest & West	84.4%	15.6%	0 —
Total	78.6%	20.7%	0.7%

Narrow Fabrics Booming

The narrow fabrics industry is in the midst of an intensive modernization program, according to Charles W. Moore, Sales Mgr., The Fletcher Works, Phila., Pa. "We have sur-

(Continued on page 16)

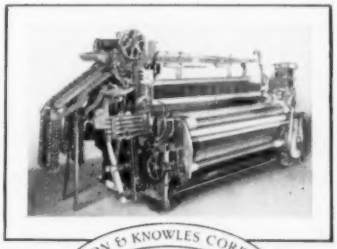
When the Duke *Steps Out* of traditional trousers

. . . can you follow the new fashion-leader?

When a young nobleman recently appeared at a formal wedding *without* striped trousers . . . but *with* plaid trousers . . . the world of fashion blinked, looked again — and followed suit!

That's how suddenly a new fad can start. And also, just how suddenly a single-purpose weaveroom can be left at the post, unable to follow the new path to plush profits.

But a C&K Multi-Purpose or Select-A-Pic weaveroom can actually convert *overnight* to any pattern or construction . . . even from plain to fancy fabrics and back again . . . and to any combination of colors. So you're all ready at all times to follow the winds of fashion, however they may blow. And in addition, M-P or Select-A-Pic Looms will give you higher production of better fabric . . . as well as increased work-assignments and lower maintenance.



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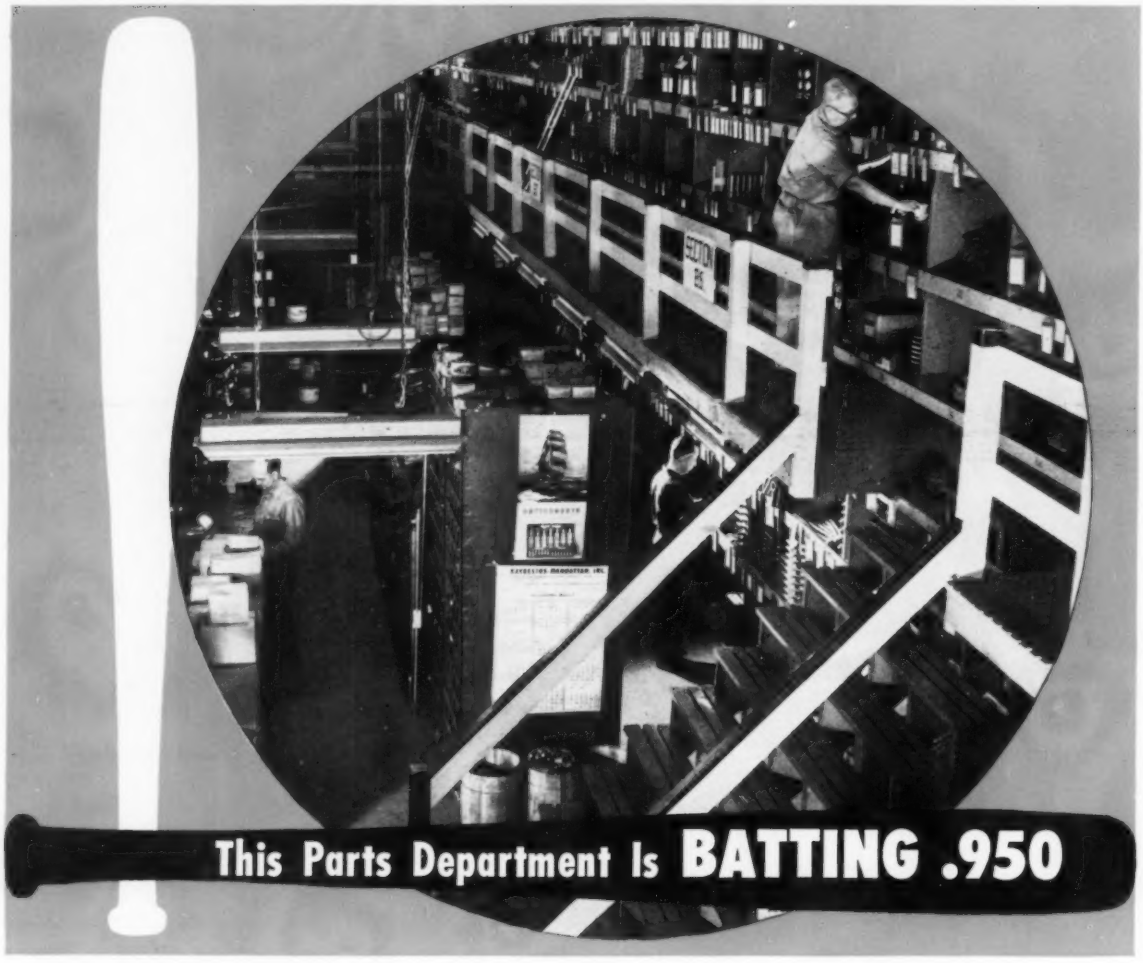

In 19 out of 20 emergencies, Butterworth can ship the parts you need in less than 24 hours. With that .950 batting average, our Parts Department backs up every Butterworth machine you buy.

At Butterworth, there's a $2-million inventory of more than 50,000 *different* Butterworth parts — stocked, shipped and replenished for just one purpose: To keep every Butterworth machine operating at peak production and maximum efficiency.

Whether you need a 5¢ diaphragm or a $5,000 bearing assembly, all the resources and facilities of the Butterworth organization swing into action for you as soon as we get your SOS. Hard-to-get parts . . . parts that can be bought singly only at Butterworth . . . are our stock in trade.

But what of the .050 times we strike out? If yours is the 1-in-20 problem that calls for an unstocked part, we'll say so immediately . . . then go to work to supply that need in the shortest possible time. When you standardize on Butterworth machines, there's a $2-million Parts Department as near as your telephone . . . as handy as your freight office. Give us a call the next time you need a part — we'll go to bat for you.

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1211 Johnston Bldg., Charlotte, N. C. • 187 Westminster St., Providence, R. I.

Representatives in Principal Cities of the World

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing, Embossing, Pot Spinning Machines for Synthetic Fibers : : Calender Rolls : : Tenter Chains

BUTTERWORTH
Serving the Textile Industry Since 1820

with industry's fastest growing solvent
(Reg. U. S. Pat. Office)

IMMUNOL

PROVEN BY 10 YEARS OF CONSTANT USE IN LEADING MILLS

Cleans KNITTING EQUIPMENT, DROP WIRES, HEDDLES, LOOMS, etc.

Safely
Faster
Better and at
Less Cost!

Progressive plant and mill managers everywhere, once having used IMMUNOL, discard their former cleaning solvents in favor of IMMUNOL. They find that IMMUNOL is considerably less expensive; it costs approximately only 13c a gallon when mixed to proper proportion and ready to use.

Yes, IMMUNOL removes oil, size, dirt, soil from all machinery and equipment faster and without danger of fire, rust and toxicity. Not being alkaline or acid, IMMUNOL will cause no discomfort or harm to workers' skin no matter how long or often the skin is in contact with the solution.

Here is a fast effective general cleaner for mill equipment of all types and which will completely wash out of any fabric without affecting the shade of the material (providing the fabric is not affected by plain water). Cleaning mill equipment or the premises with IMMUNOL requires no skill or training. It may be applied cold or hot by swabbing, brushing or spraying and then allowed to dry or be blown dry.

Free literature describing the many safety properties of IMMUNOL and the wide variety of cleaning operations is available on request.

- NON-TOXIC
- INHIBITS RUST
- NO RESIDUE
- NON-FLAMMABLE
- INEXPENSIVE
- SAFE TO SKIN

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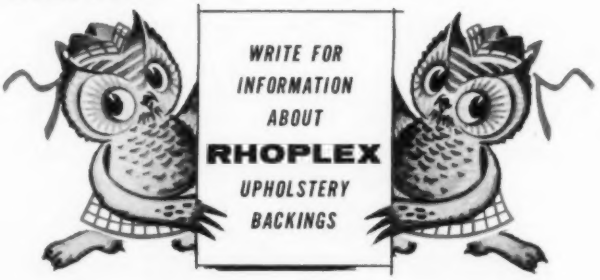
NEW way to improve upholstery backings with **RHOPLEX** acrylic emulsions

Boys will be boys . . . and since you can do little to change them, consider "boy-proofing" your upholstery backings.

New RHOPLEX thermoplastic acrylic resin emulsions give you a new set of answers for your upholstery backing problems. By combining RHOPLEX resins in varying proportions you may obtain any degree of softness or firmness you desire. Yet, unlike rubber, a RHOPLEX film will not discolor or stiffen with age or exposure to light under ordinary conditions.

RHOPLEX films adhere with a vise-like grip to textile fabrics, require no curing, have no odor at all when properly processed. Try this new way to increase the preference for your upholstery materials.

RHOPLEX is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.



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THE FIRST LINT-PROOF TEXTILE MOTOR

- ELIMINATES MOTOR CLEANING COSTS
- SAVES SPACE—PERMITS UNDER FRAME MOUNTING
- TOTALLY-ENCLOSED—PREVENTS WATER DAMAGE
- REDUCES FIRE HAZARD
- FLEXIBLE DESIGN—ADAPTABLE TO ALL MACHINES

Now available—1-20 hp. general-purpose, totally-enclosed, air-cooled, textile motor for application on spinning, roving (low torque), drawing and twisting frames, and on cards, openers, pickers and other textile machines. B-1504

RELIANCE Totally-Protected MOTORS

RELIANCE ELECTRIC AND ENGINEERING CO.

Cleveland 10, Ohio • Offices in Principal Cities

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REPUTATION

Is Mighty Important To The Modern T-Formation Quarterback

In these modern football days, the T-Formation Quarterback handles the ball on every play. It's important that his teammates have confidence in his ball-handling and signal calling!

It's also important to choose the electrical contractor with the best reputation to handle electrical projects in your mill. J. M. Clayton Co. has the reputation and the know-how . . . you'll hear the name mentioned wherever quality electrical contracting is being discussed.

J. M. CLAYTON CO. 1906 50 1956 YEARS

J. M. CLAYTON CO.

CONTRACTING ELECTRICAL ENGINEERS

ATLANTA, GEORGIA

Shorts and Remnants

(Continued from page 10)

veyed the industry and find interest in new and more efficient looms is higher than it has been in more than five years," Mr. Moore says. "Nar-

Mr. Moore

row fabrics producers realize that they must modernize or pass into oblivion. . . ."

Franklin Shows Dyed Yarn End Uses

A recent sales meeting of Franklin Process Co. with W. F. Wolfe, Pres., as keynote speaker showed finished products of dress goods, shirtings, worsteds, knitted outerwear, men's and children's hosiery, tufted textiles, knitted underwear, woven and braided narrow fabrics, etc., all using Franklin Process dyed yarns. Idea was to stimulate sales enthusiasm across the board.

Want To Buy

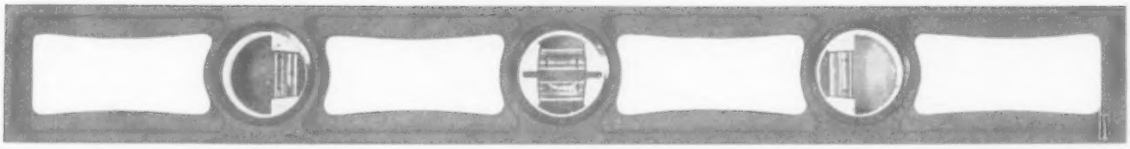
The miniature hand-loom for samples (August '56 p. 75) made by Structo Mfg. Co., Freeport, Ill., continues to draw inquiries from such as **D. M. Richardson,** Owens-Corning Fiberglas Corp., Anderson, S. C.; **Hector Hoyle,** Stafford Springs, Conn.; and Adm. Terciopelos Nacionales, S.A. Mexico, D.F.

Somebody at Auburn, Me., wanted more data on high-pressure slasher cylinders and Shirley hoods as advertised by Sims Sheet Metals Works, West Point, Ga., but he forgot to sign his name. Could this be **Milton Smith** at Bates Mfg., Lewiston?

H. Goldsmith, 446 Monroe St., Passaic, N. J., wants wire weaving looms. **Forrest B. Sharpe** Burlington Mills, St. Pauls, N.C., wants more data on "Caprolan" nylon yarns advertised by National Aniline (Fibers Div.); **Ernest Jones,** Corsicana (Tex.) Mills, wants data on slasher squeeze roll pressure control as advertised by Taylor Instrument Companies (April '56).

Henry K. Dick, American Viscose Corp., Meadville, Pa., wants information on Breazeale friction tester for

an efficient wool dyeing auxiliary and



leveling agent

ANTHOMINE®

Anthomine achieves a full shade in dyeing tippy and blended wool.

Thousands of pounds of Anthomine have enabled U.S. and Canadian mills, in the past ten years, to meet rigid government specifications in the dyeing of wool for military fabrics.

It possesses good softening qualities, leaving the wool with a very pleasing, rich hand, of special value in strong acid dyeing which otherwise would harshen the fibers.

Anthomine also provides excellent exhaustion of the dyebath and speeds up dyeing operation.

Because of its cationic nature, many mills add Anthomine to wool oil to eliminate static on the cards.

Ask your Arkansas representative for full details, or write for Technical Service Bulletin.

AC INC.®

ARKANSAS CO., INC.

Serving the Textile Industry for over 50 Years

NEWARK, NEW JERSEY

6 TIMES A YEAR is only buffing needed for this Tennantized weave room floor.

3 REASONS WHY YOU CAN NOW

Save 30% to 60% in Floor Maintenance Costs

Important NEW improvements in the TENNANT System now make it possible—a saving of 30% to 60% in floor care costs annually, compared to 5 years ago. Here's why, as reported by many mills:

1. You use 50% less manhours today in cleaning a TENNANT-treated floor because its dirt-resistance has been almost tripled. You buff only 1/5 to 1/10 as often . . . need only a dry mop for daily cleaning.

2. Floor seals last 4 times longer today because they are more wear-resistant, stand up better under oil, grit and dirt. Bright, lustrous finish is easily renewed without need for sanding.

3. You save time in problem areas, like weave rooms, with new TENNANT materials that resist humidity, starch, discoloration, etc. Saves manhours (see photo above). *Write today for details; ask for estimate of savings possible in your mill.*

TENNANT
ESTABLISHED 1870

G. H. TENNANT CO.
2524 North 2nd Street
Minneapolis 11, Minn.

FLOOR MAINTENANCE SYSTEM

Shorts and Remnants

coning oils and yarn lubricants as carried in "Warp Sizing" Sept. '56; **J. E. Cullom,** Cullom Broom & Mop Co., Helmsburg, Ind., wants cotton yarn and "linen slasher material" for mops; Ahlers & Eckerman, Alsterton 20, Hamburg, Germany, want to import printed nylon dress goods and other textiles for West Germany, and can give good references.

With our Readers

D. A. Ely, Carbide & Carbon Chemicals, South Charleston, W. Va., also **Wm. E. Jennings,** National Aniline Div., Hopewell, Va., ask for extra copies June Tufted Textiles. **Noah Brenner,** Sacony, College Point, N. Y., wants more on Disappearing Yarns (Aug. '56). **Milton Sutherland,** Gen. Mgr., J. P. Stevens & Co. Inc., Greensboro, N. C., asks for 6 copies of leno weaving articles (Apr., May, June '40) and that one is out of print. That's 16 years ago.

Van Engelen & Evers, Heeze, Netherlands, also reach back to '47 for missing copies in series on "Winding Machines, Principles and Practices." That one was reprinted for Universal Winding Co., Providence, R. I.

Wm. L. Boles, Chatham Mfg. Co., Elkin, N. C., and **C. B. Hayes, Jr.,** Gen. Mgr., Arkwright Mills, Spartanburg, S. C., both want extra copies of "My Private Secretary." That edition of handy tables and records is sold with subscriptions to T.I. **Herman Granberry,** Head Mech. Dept. (Research), West Point Mfg. Co., Shawmut, Ala., also wants extras of articles on "The Roving Frame," which is again a subscription premium. (Why do we have *premiums* to sell anything as good as T.I.? Sounds silly.)

Leonard C. Butler, Burlington Industries, Greensboro, N. C., wants additional information from Ringgold Arden on "The Public Interest" (July '56). **Francisco Serra,** Barcelona, Spain, is setting up a fiber testing lab and wants more on differential dye tests ("Quality Control of Cotton Fibers," Aug. '51).

Enjoys T.I.

". . . Enjoy reading your publication TEXTILE INDUSTRIES and wish you continued success."

A. B. CULBERTSON, JR.
Burlington Industries, Inc.
Greensboro, N. C.

(Continued on page 20)

BEST FOR COTTON

AND SYNTHETIC SLASHING

SEALSKIN

RUBBER COVERED ROLLS

A newly developed synthetic roll covering designed specifically for cotton and synthetic slashing to provide the deep, uniform size penetration which results in trouble-free weaving.

Find out how Sealskin rubber covered rolls can increase slasher and weave room production, and practically eliminate slasher roll maintenance in your mill. Write for bulletin 103.

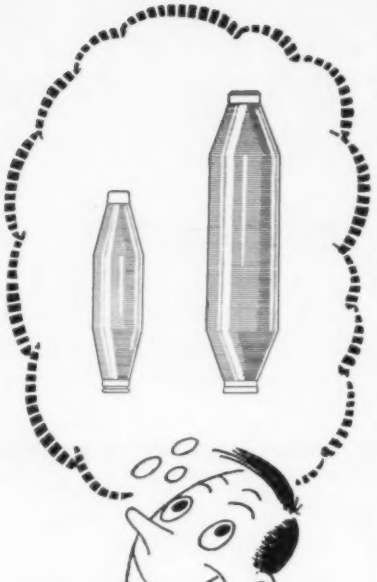
S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

STOP DREAMING ABOUT BIG PACKAGES...



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For 24 years we've been s-t-r-e-t-c-h-i-n-g spinning and twister frames, making them do things their designers never dreamed possible.

WE CAN REBUILD YOUR FRAMES FROM FLOOR TO CREEL

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Shorts and Remnants

(Continued from page 18)

Free Reprints

Ole S&R is not only thankful at this season; but, believe it or not, he is already getting the Christmas spirit. During the month of November only, T. I. readers are offered free one copy of any five of the following reprints of articles which have appeared in TEXTILE INDUSTRIES, so long as the supply lasts. Check the five articles you wish, tear out the page, and mail with your name and address to

Shorts and Remnants
"Textile Industries"
806 Peachtree St., N. E.
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Please check only five. Readers will be served from our limited supply on a first-come, first-served basis. To expedite handling, *do not* use the Handy Return Card for this purpose.

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( ) $2,171,435,000 Used to Benefit Foreign Textiles (1-72)
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( ) Hosiery Inspection, Double Output (2-122)
( ) How One Mill Traces Bad Work (1-96)
( ) How to Dye & Finish Dynel Cellulosic Fiber Blends (2-140)
( ) How to Use Ultraviolet Light in the Textile Industry (2-135)
( ) How Warm is Your Fabric? (1-93)
( ) Huntsville's New Power System (1-21)
( ) Huntsville's Vibration Problem Solved (1-44)
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( ) This Incentive System Built a Working Team (2-125)

(Continued on page 24)

FIBER-LOK resin emulsions for textiles

FIBER-LOK emulsions are new vinyls formulated especially for textile applications—from sizing and finishing to nonwoven fabrics.

FIBER-LOK emulsions find use with all types of fibers and fabrics including blends of natural and synthetic. They impart a soft full hand or a crisp stiff finish. They increase tensile strength, abrasion resistance and wash fastness. Some withstand sterilization without discoloring.

FIBER-LOK emulsions are simple to use. Compatible with other sizing and finishing materials. They vary in particle size, emulsifier type and other physical characteristics. Why not let one of National's Resyn Specialists help you decide which can improve your fabrics.

RESYNS® National STARCHES

National Starch Products Inc., 270 Madison Avenue., New York 16, N. Y. • Atlanta • Boston • Philadelphia
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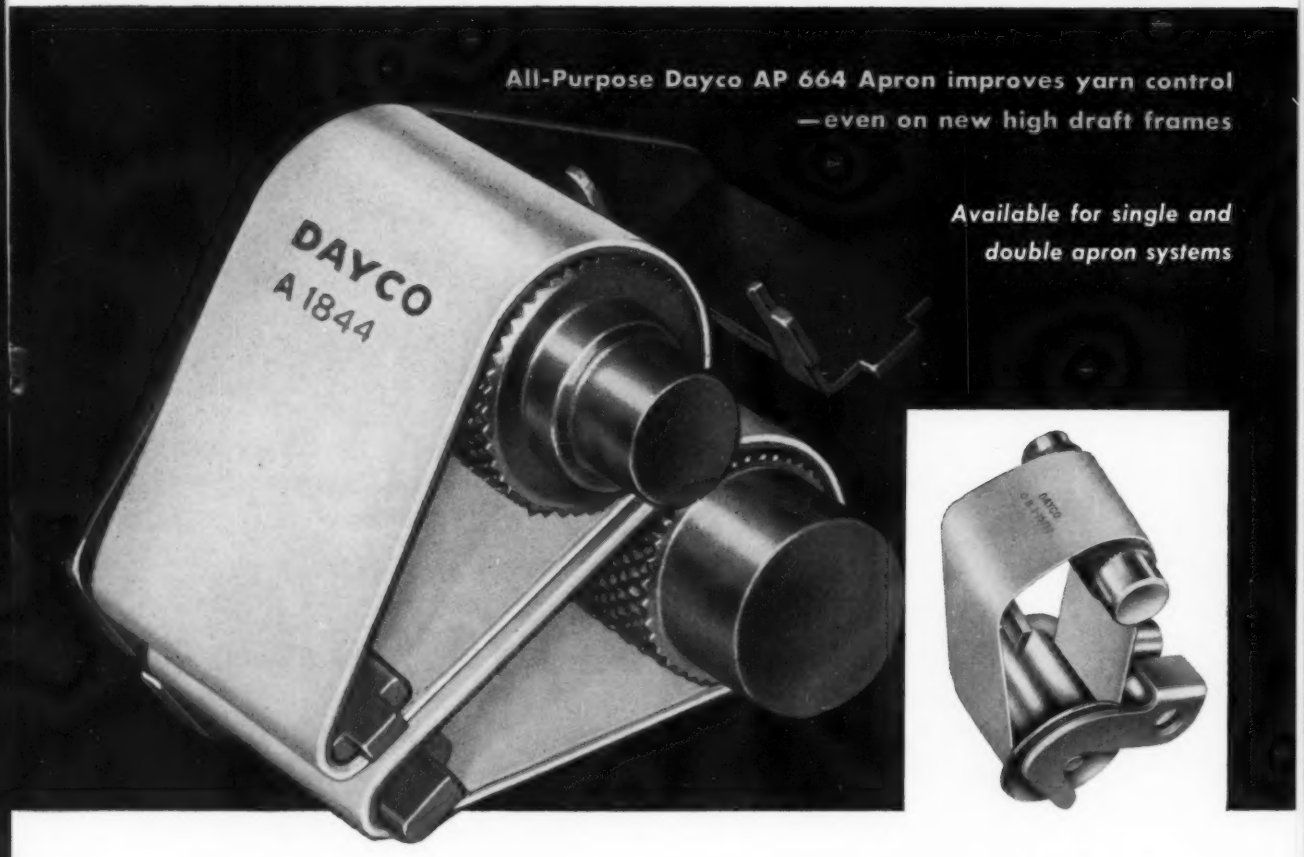
New flexible apron...

offer 8 important



All-Purpose Dayco AP 664 Apron improves yarn control —even on new high draft frames

Available for single and double apron systems

These important features mean more uniform yarn, trouble-free operation

1. **Greater flexibility eliminates drag around nose bar**
2. **Reduced co-efficient of friction—chatter-proof**
3. **Lint-free—won't hold or stick to fibers**
4. **Highly oil resistant**

Test the easy flexibility of the new Dayco AP 664 Apron with your own hands! See the clean pink color of the smooth, semi-gloss inner surface. Reduced co-efficient of friction minimizes chatter around the nose bar on low, high and super draft frames.

New light blue compounds in the drafting surface take just the right finish for all fibers—synthetic and natural. Special ingredients will not adhere to fibers after shutdowns, nor hold lint to coat the drafting surface. This superior apron is unaffected by extremes of temperature and humidity. No known oils affect the efficiency of the drawing face the remarkable new Dayco AP 664 Apron.

new lap resistant cot...

drafting advantages

All Weather Dayco EW 661 Cot draws uniformly, despite extreme "dog day" heat and humidity.

Completely new EVERGREEN compounds give you these vital features:

1. Improved drawing of *all* fibers—especially synthetics
2. Stays dry—won't sweat
3. Never becomes sticky
4. Won't adhere to fibers during shutdowns

Amazing surface action of newly developed EVERGREEN compounds assure you practically lap-free spinning every day of the year. This NEW Dayco Cot has proved itself lap resistant in *any* weather in actual mill tests. It never sweats nor becomes sticky, so the yarn can't slip nor adhere to the surface.

Even on mid-summer "dog days" with heat and humidity zooming upward, the EVERGREEN compounds in the new Dayco EW 661 Cot run cool, draw yarn smoothly, evenly, virtually *without lap-ups!*

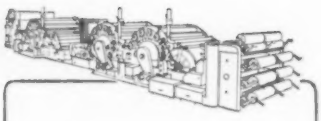
Your Dayco Representative will be in to see you soon. He'll be glad to arrange for you to run a test frame of the all new Dayco AP 664 Aprons and the new all-weather Dayco EW 661 Cots as well as give you additional facts on these new, improved Dayco products. The Dayton Rubber Company, Textile Div., 401 S. C. National Bank Bldg., Greenville, S. C.

Dayton Rubber

DAYCO AND THOROBRED TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

How record card room yields
are being achieved through Davis & Furber

"coordinated production"



COMPARE THESE D & F "COORDINATED PRODUCTION" FIGURES

Number of Card roping ends	80 to 192
Production, lbs/hrs	40 to 300
RPM, 7¼" dia. winding drums	30 to 70

(variations according to stock and yarn sizes)

"Coordinated production" requires careful, thorough study of many phases of mill operation – and qualified recommendations based on such study. Here are the primary ways D & F engineers help *you* achieve the advantages of Davis & Furber "Coordinated Production."

★ *Review your present card room operations.*

★ *D & F "in-the-mill" Technical Survey to analyze existing conditions.*

★ *Presentation of Davis & Furber recommendation*

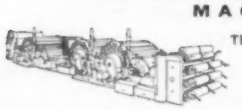
(a) *New equipment, supplies, and/or modernization.*

(b) *Establishing an efficient preventive maintenance program.*

(c) *Supervising installation, adjustment of D&F machines during production runs of your stock under mill conditions.*

Get complete information now on D & F "Coordinated Production," from either North Andover, Mass., or Charlotte, N.C. Ask for your copy of The D & F News.

DAVIS & FURBER
MACHINE COMPANY



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North Andover, Mass.
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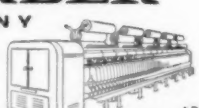

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Shorts and Remnants

(Continued from page 20)

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Vote early and often.

for *Quality* and *Savings*

STANDARD'S PRODUCTS

A complete line of efficient processing and finishing agents for all fibers

PYROTEX

Neutral scouring and dyeing agent for wool, worsted, cotton, rayon, acetate, and synthetic fibers.

RETARDINE

For level dyeing and stripping of vat, sulfur, and direct colors.

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New dye fixatives to improve fastness to light, washing, crocking, and perspiration.

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Surface active agents effective in acid, alkaline and salt solutions, for dyeing, fulling, carbonizing, mercerizing, finishing and sizing.

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Sanforizing agents with efficient wetting, rewetting, lubricating, and softening properties.

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Substantive softener, with anti-static properties, for natural and synthetic fibers.

STANDAFIN

Durable and semi-durable finishes designed to impart a full range of body, hand, and drape for all fabrics.

STANSET

Resin products that impart a durable crease and shrink resistant finish.

STANDARD CHEMICAL PRODUCTS, Inc.

Hoboken, New Jersey : Charlotte, North Carolina

It's as simple as this... WHITIN

In top-flight quality mills, high production mills and specialty mills, on every fiber, Whitin Roving frames are acknowledged leaders.

This distinct mill preference is based on a solid record of unbeatable production, evenness of roving produced, the flexibility and performance of Whitin drafting systems. Advanced in design and having every desirable mechanical improvement, these frames have set new high standards of operation, with lowest costs per pound for direct labor, maintenance and total cost.

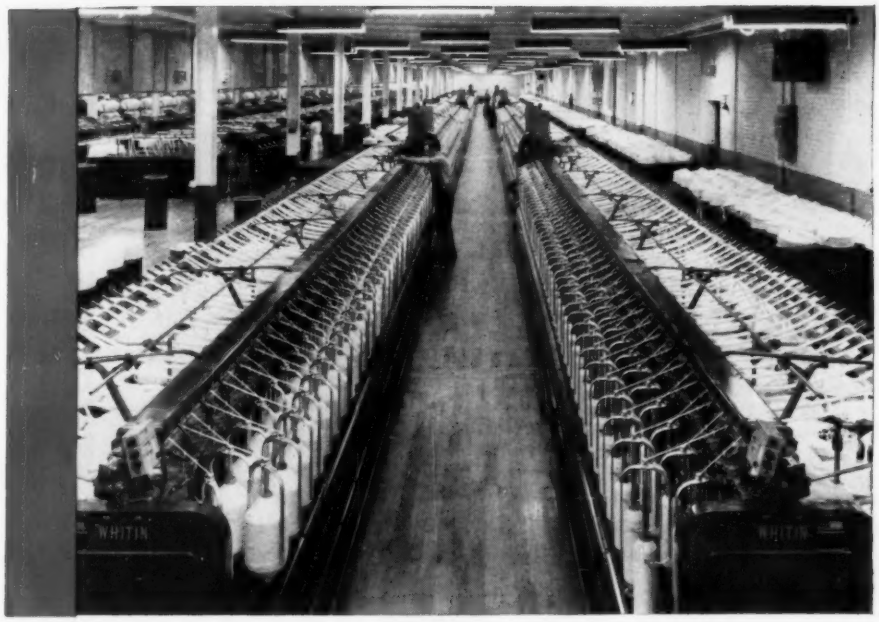
ROVING FRAMES

give you Better Roving at Lower Cost

The data below is an example of the production and cost advantages you can secure with Whitin Roving frames. The figures are based on actual operating conditions in a mill producing 162,000 lbs. per 144 hr. week of 80x80, 39" 4.00 high quality print cloth with 31's warp and 41's filling.

	For 31's Warp	For 41's Filling
Hank Roving	1.00	1.30
Spindle R. P. M.	725	725
Front Roll Speed	178	139
T. Multiplier	1.15	1.30
% Efficiency	88	88
Lbs./Spdle./Hr.	1.10	.660
Lbs./Spdle./144 Hrs.	158.4	95.0
Size of Bobbin	12"x6½"	12"x6½"

	For 31's Warp	For 41's Filling
Wt./Sliver/Bobbin	54 oz.	54 oz.
Spindles per frame	96	96
Spindles Required	1279	
Spindles, 14 frames used	1344	
Fr./Operator	5-5-4	
Cost per lb. for direct labor . . . $.00391		



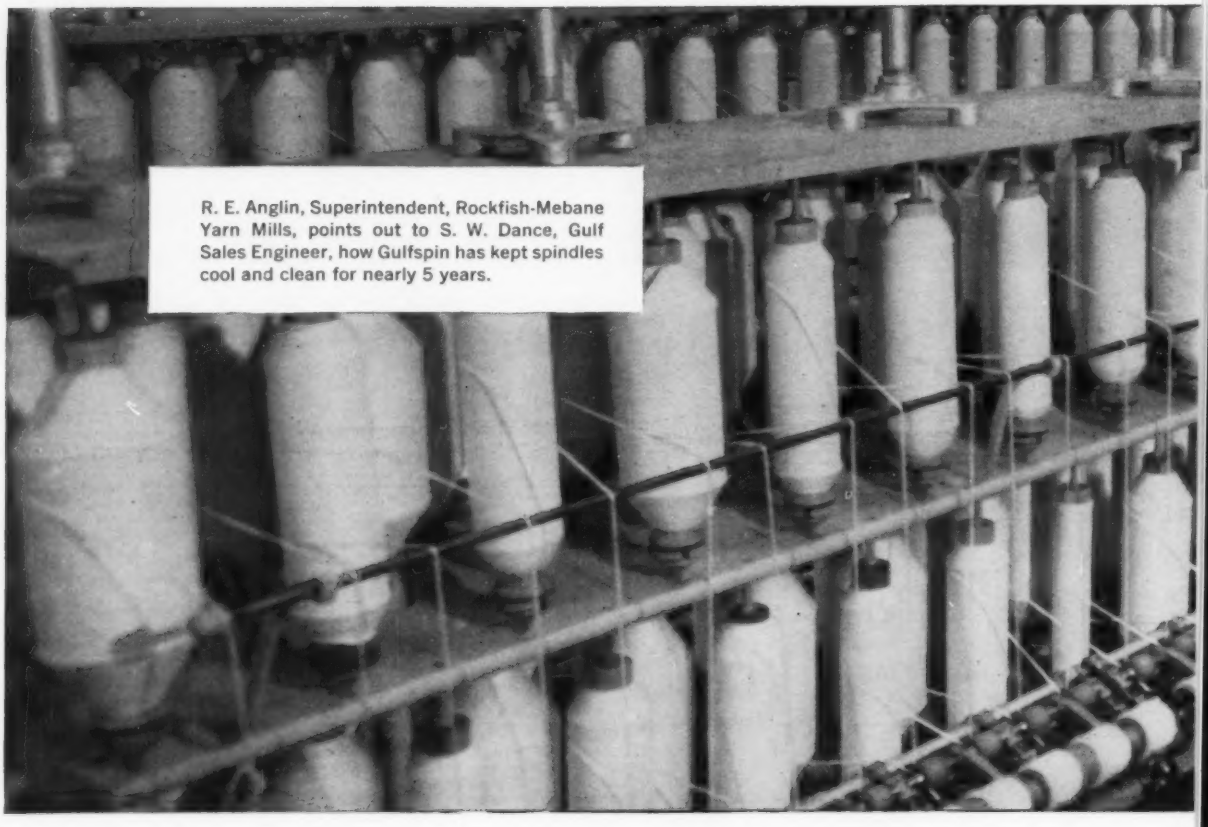
Photos courtesy of
DUNDEE MILLS, Incorporated
Griffin, Georgia

For complete information, ask your Whitin representative — or write direct to us.

Whitin MACHINE WORKS

WHITINSVILLE. MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



R. E. Anglin, Superintendent, Rockfish-Mebane Yarn Mills, points out to S. W. Dance, Gulf Sales Engineer, how Gulfspin has kept spindles cool and clean for nearly 5 years.

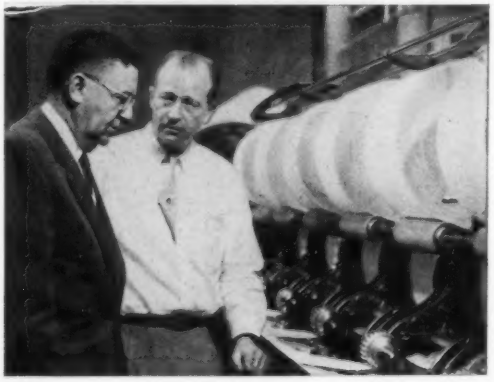
Rockfish-Mebane Yarn Mills cut

Rockfish-Mebane Yarn Mills have used Gulfspin for nearly 5 years to keep spindles performing efficiently. Gulfspin offers immediate savings in 3 different ways: cuts spindle cleaning costs; conserves power, and reduces maintenance costs.

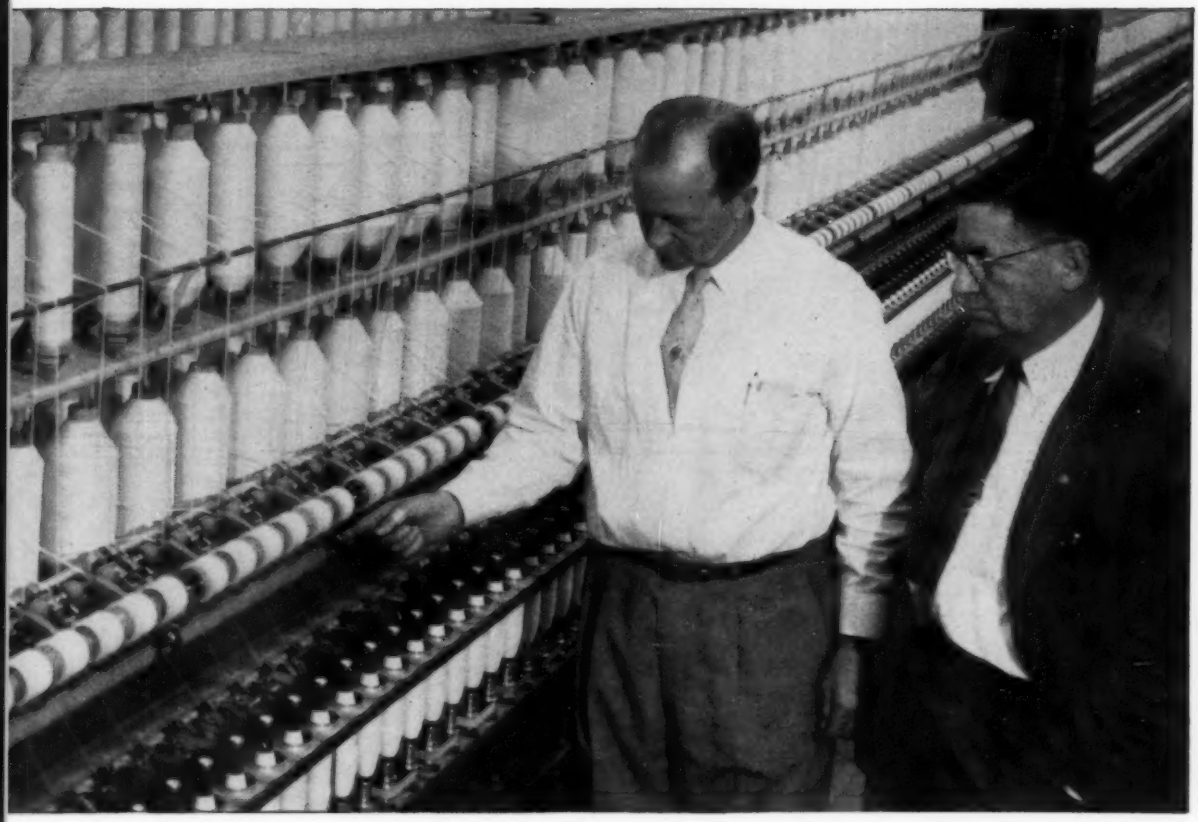
Gulfspin minimizes the formation of sludge, gum and resin that make spindles stick. With Gulfspin, spindles stay clean. You save money on cleaning costs.

Gulfspin viscosity stays the same over long periods of time—8 years in one recently checked mill! Because viscosity doesn't increase, you drive your spindles without wasting power. This means substantial savings in power costs.

Gulfspin also prevents rust, and has exceptionally high load-carrying ability. It



Gulf Harmony Oil is highly resistant to oxidation, lasts indefinitely. It is the oil used to lubricate gears and bearings on this Saco-Lowell Comber.



costs 3 ways with GULFSPIN

provides better protection against excessive wear. By using Gulfspin, you cut costs straight down the line.

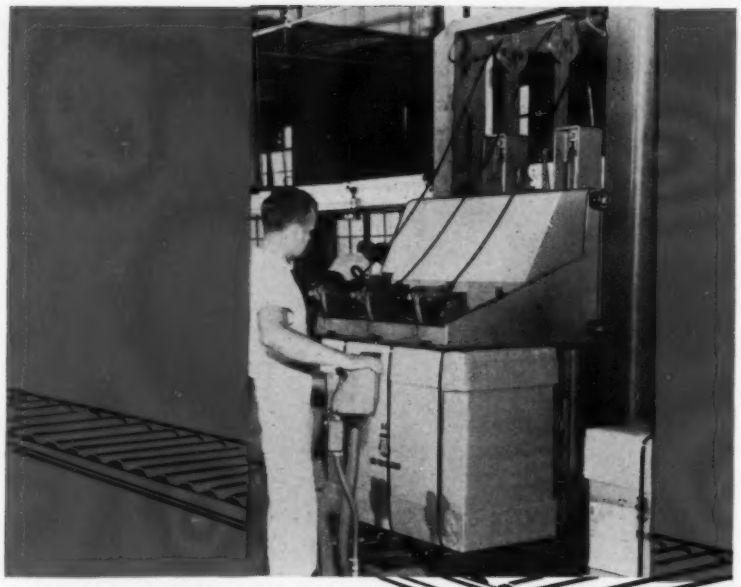
Another great oil developed by Gulf and widely used at Rockfish-Mebane is Gulf Harmony. Gulf Harmony provides a tough lubricating film, resists oxidation, leaves no harmful deposits. Available in a wide range of viscosities.

For further information on either Gulfspin, Gulf Harmony Oil—or both—contact a Gulf Sales Engineer at your nearest Gulf office.

GULF OIL CORPORATION
GULF REFINING COMPANY
1822 Gulf Building
Pittsburgh 30, Pennsylvania

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

GULF



Strapper furnished by Acme Steel Co.

High-speed case strapper served BY ALVEY...

...ENGINEERED CONVEYORS. This fast-strapping machine at a Pepperell Manufacturing Company mill is kept well-supplied with work by a specially engineered ALVEY conveyor system. The flow of filled cases to and from the strapper is accomplished without lost motion or delay.

Here's another example of how ALVEY conveyor systems are being integrated to control and coordinate the flow of work in modern mills.

Every time you MANhandle a product, you add to its cost...without increasing the value.

So, for profit's sake...*convey* your products.

ALVEY

ALVEY CONVEYOR MANUFACTURING COMPANY
9306 Olive Street Road • St. Louis 24, Missouri
Branch Offices in Principal Cities

228

Personal NOTES
ABOUT MEN YOU KNOW

On leave of absence from Dan River Mills, Danville, Va., is personnel executive, **Wilbur C. "Dan" Daniel,** who has been elected national commander of the American Legion for 1957. "Time" magazine recently gave publicity to Mr. Daniel's election. * * * **R. M. Stephens,** vice-president and general superintendent, has assumed in addition to his present duties overall responsibility for manufacturing operations at the company's new Alabama Mills Division, including Anchor-Rome Mills in Rome, Ga. **R. C. Gourley,** previously director of personnel and standards,

Mr. Stephens

Mr. Gourley

has been appointed division superintendent for the company's Alabama Mills Division. **Alfred H. Randall** has been named assistant superintendent for the eight mills comprising the Alabama operation. **Irvin L. Payne,** formerly superintendent of the No. 2 division in Danville, has been promoted to assistant general superintendent. In his new post, he will take charge of all greige manufacturing in the plants located at Danville. **A. C. Copeland,** previously assistant superintendent, succeeds Mr. Payne. * * * **Basil D. Browder,** executive vice-president, has been named to membership on the National Council of the National Planning Association, an organization devoted to planning by Americans in agriculture, business, labor, and the professions.

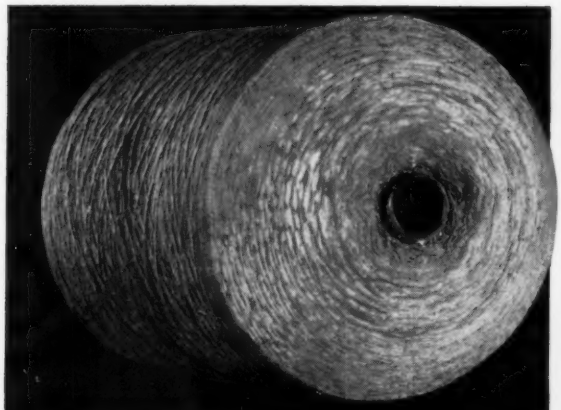
Promoted to overseer of carding in the Easley, S. C., plant of Woodside Mills is **James Tucker,** formerly carding second hand at Greenville. Former second hand in the Greenville spinning department, **Bennett Hudson,** has been elevated to overseer of spinning at Easley.

John E. Watte, Jr. has been promoted from the post of vice-president

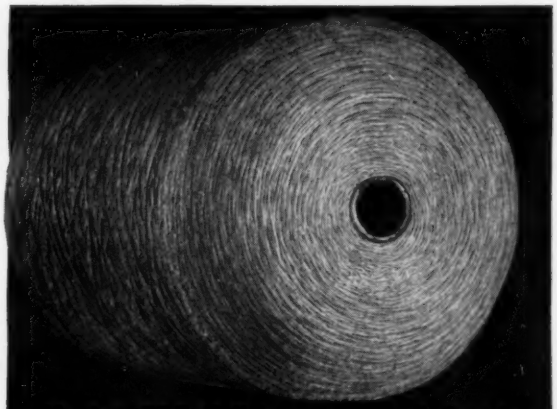
(Continued on page 38)

You don't add objectionable calcium when you use

MORTON '999' SALT *Chemical Grade*



Ordinary salt high in calcium and magnesium content can cause you trouble in the form of off-shading, cut threads, costly shutdowns.



Morton '999' Salt is exceptionally low in calcium and magnesium content to help give softer finishes, more even shades, greater color intensity.

Morton '999' is a low-cost, high purity evaporated salt, free of objectionable calcium and magnesium compounds. '999' is 99.9% clean, pure sodium chloride for use whenever low calcium salt is needed.

As the chart, below, shows, for direct salting you may reduce the total calcium content by as much as 1950 parts per million by using '999' instead of common grades of ordinary salt. Where you are investing time and money in turning out a quality product, Morton '999' Salt is low-cost insurance against dyeing failures caused by excessive calcium in salt.

Available in 100-lb. bags or bulk, '999' is specifically recommended when direct salting is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct or naphthol dyes.

Ordinary salt averages	**PPM Calcium and Magnesium**
125-2000 PPM	**Morton '999' Salt (Chemical Grade) is guaranteed to contain less than 50 PPM**

MORTON SALT COMPANY
Industrial Division, Dept. TI-11
120 South LaSalle Street
Chicago 3, Illinois

___ Please send me more information about Morton '999' Salt.

___ I would also like to know how much I can reduce calcium and magnesium content by using Morton '999' Salt. Please have a Morton Brine Engineer call on me to explain the benefits of using '999' Salt.

Name_____

Title_____

Company_____

Street Address_____

City_____ Zone_____ State_____

MORTON SALT COMPANY
INDUSTRIAL DIVISION
Dept. TI-11, 120 So. La Salle Street, Chicago 3, Illinois

here are reasons why

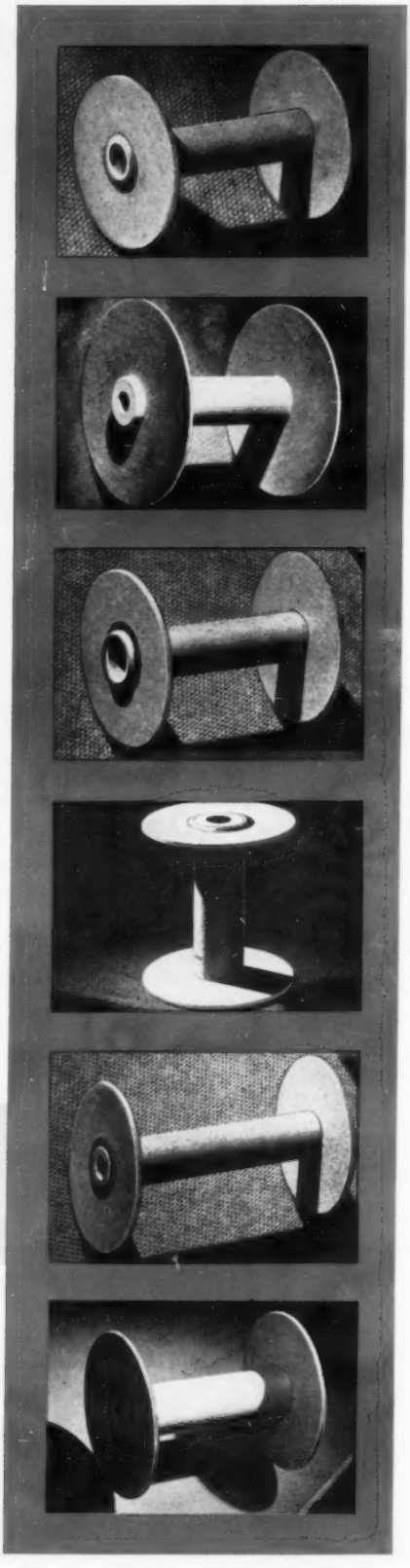
Sonoco Spools

give you a better package

All SONOCO spools are designed specifically for the package they are to create.

You have a choice of a wide variety of standard types, or SONOCO will make them to fit your needs. Precision made to work under high speed conditions. Widely used as carriers for fringe, tape, braid, narrow and wide fabrics, thread, yarn, cord, rope and many other products. Available with plain, printed and treated heads. Light and heavy weight, in a number of head-barrel constructions. Inquiries should specify head and barrel diameters, traverse and bore.

SONOCO also makes standard and special tapered base, single head thread spools in fibre and plastic. Barrels can be scored, smooth, flocked or ground.



Consult your SONOCO sales-engineer, or write us direct.

SONOCO PAPER CARRIERS
REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

MAIN OFFICE — HARTSVILLE, S. C.

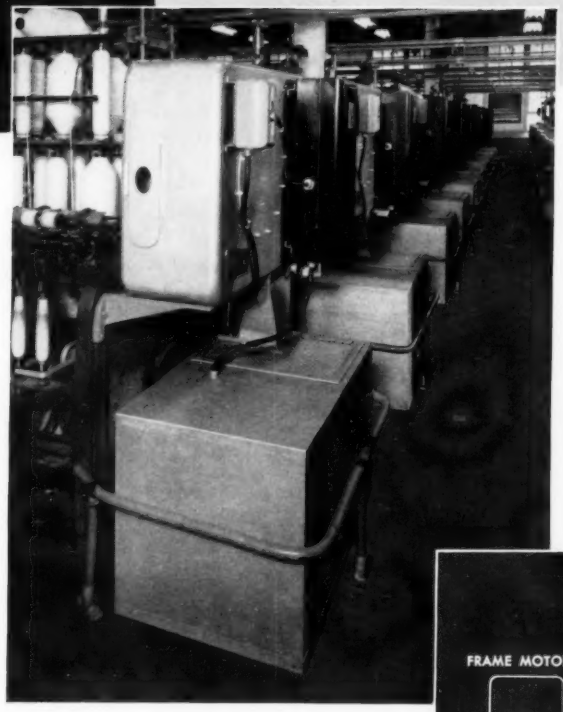
MYSTIC, CONN. • AKRON, IND. • LOWELL, MASS. • PHILLIPSBURG, N. J.
LONGVIEW, TEXAS • PHILADELPHIA, PA. • LOS ANGELES, CAL.
GRANBY, QUEBEC • BRANTFORD, ONT. • MEXICO, D. F.

DEPENDABLE SOURCE OF SUPPLY

Does three jobs at one time!

NEW! Bahnson Central Heat Removal System

PAT. PENDING



1. Takes Out Unwanted Heat From 2 Sources

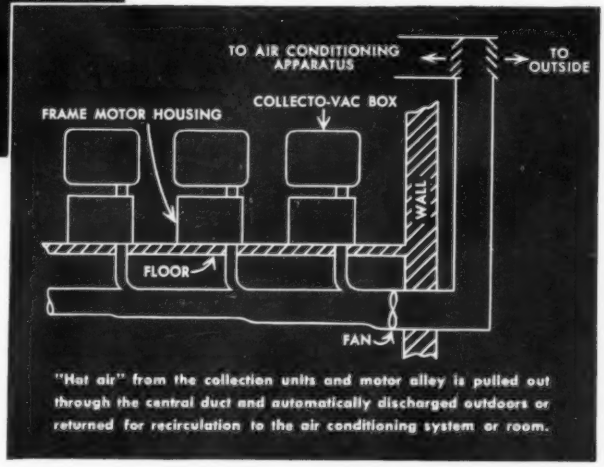
Vacuum collection heat and frame motor heat removed simultaneously.

2. Provides More Uniform Air Conditions

Concentrated motor alley heat eliminated with maximum cooling.

3. Cools Entire Room When Air Exhausted Outdoors

Room heat load economically lowered by removing heat from collection unit plus frame motor to outside.



"Hot air" from the collection units and motor alley is pulled out through the central duct and automatically discharged outdoors or returned for recirculation to the air conditioning system or room.

Already selected (photo above) and preferred by a number of the nation's top textile mills because it does three important jobs simultaneously, the Bahnson Central Heat Removal System helps establish and maintain better room air conditions.

The Bahnson Central Heat Removal System is designed as a flexible unit installation to avoid disrupting production due to single fan failure; the frame motor enclosure is constructed with a "quick latch" connection facilitating access for maintenance. The Bahnson Central Heat Removal System is adaptable to existing Bahnson Collecto-Vac Systems and can be installed separately.

Bahnson P. M.* Plan

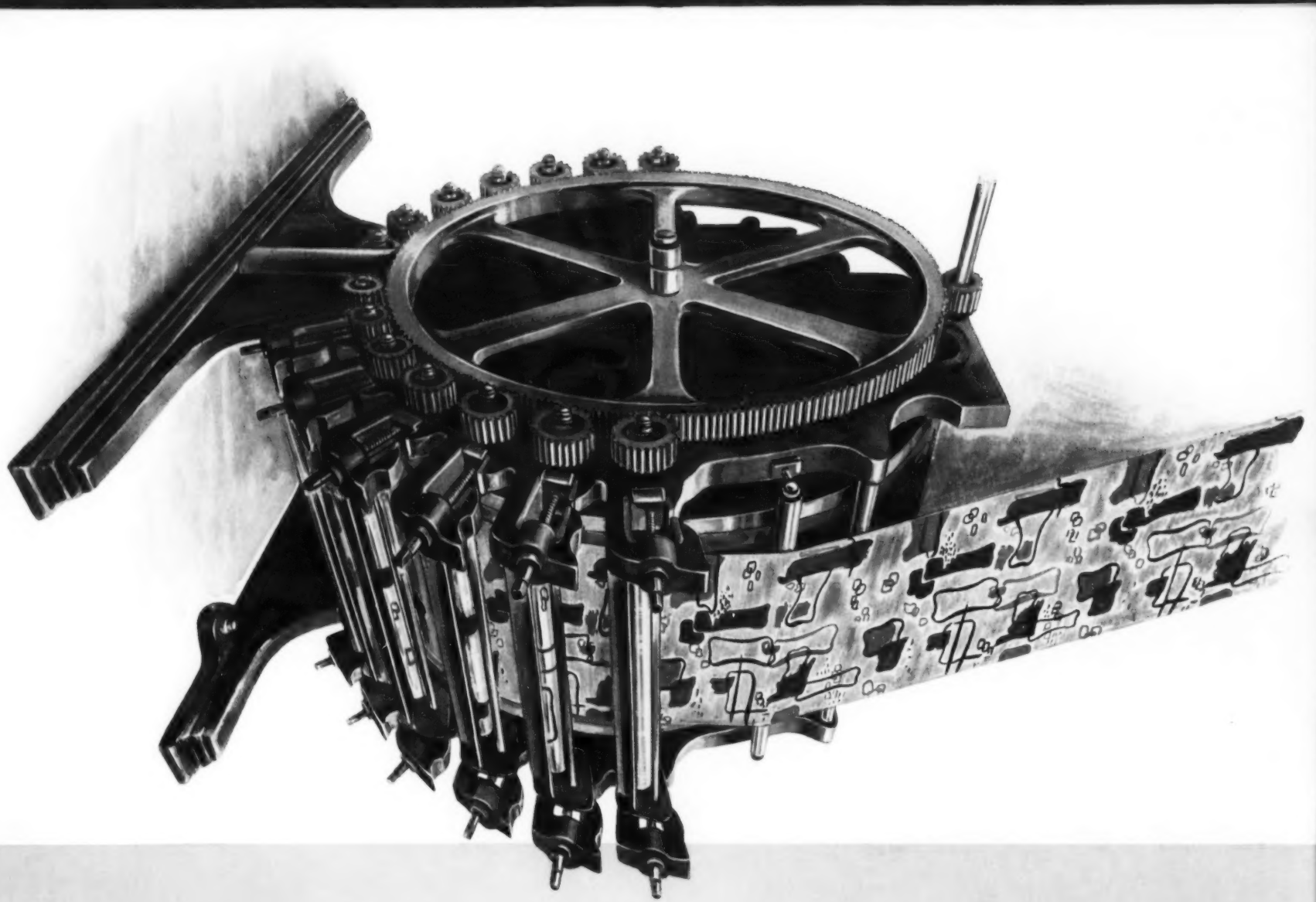
Complete *Package Modernization Plan with new equipment for end collection, cleaning, creels, air conditioning. Offers one-source responsibility and service plus dollar savings.

Bahnson
COMPANY
WINSTON-SALEM, N. C.

For more information:

Write for full data or let our representative call for a detailed explanation and recommendation.

AIR CONDITIONING / VACUUM COLLECTION / CLEANING / CREELS



Here's the NEW Du Pont savagraph process for highest quality printing with "VANTASOL"* vat dyes

Prints . . . Reduces . . . Develops at High Speed . . . Gives Higher Quality Print Than Present Vat Printing Methods

Du Pont research has developed a new printing process that gives you a great opportunity to increase the efficiency of your printing operations. The new Savagraph process, using the newly developed "VANTASOL" Dyes, also gives you a higher quality print than present vat printing methods.

These advantages, combined with high speed printing and steaming, all point to the start of the greatest advance in vat printing in 30 years.

Here's How The Savagraph Process Works:

Specially prepared Du Pont "VANTASOL" Dyes are compounded into unique water-in-oil emulsions. Printing is done on conventional equipment at top machine speed. Prints are developed by padding with caustic soda and hydrosulfite followed by steaming in a simple, inexpensive flash ager. Steaming times will vary from ten seconds to one minute, depending on weight of fabric and pattern. After being oxidized, only a mild soaping is needed. The Savagraph process using "VANTASOL" Vat Dyes gives the *highest degree of fastness* to all color destroying influences—washing, bleaches, sunlight, salt water.

Here's How Your Quality Improves:

Printed fabrics have a dyed effect in the blotch areas—with the finest overall coverage and smoothness.

You get exceptional sharpness in reproducing delicate patterns in the engraved design.

You get increased crock fastness over vats printed by present methods.

The Savagraph process and "VANTASOL" Dyes can be used to print all types of cellulosic fabrics.

Here's How You Can Get Further Information:

Like all new processes, the Savagraph process will have to be worked out at your plant, with your equipment. Du Pont Technical Representatives will be glad to consult with you and arrange for a demonstration. So get in touch with your Du Pont Dyes and Chemicals representative or your nearest district office. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Dyes and Chemicals Division, Wilmington 98, Delaware.

*Trademark

Du Pont Dyes

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

NEW PROFINE SPECIAL ASSURES

Tremendous Scorch Resistance

PROFINE Special Paste—newest development in the Profine line—once and for all licks one of the biggest problems in the textile industry.

It provides maximum scorch resistance in finished fabrics during high temperature drying, curing, setting, calendering and other processes.

And in addition, this remarkable finishing agent has every other property you need to soften, lubricate, top dress or otherwise process any type of fibre or fabric! Profine has excellent antistatic properties . . . it will not affect the shade or light fastness of dyed goods . . . it keeps whites white . . . it *is resistant* to oxidation and rancidity.

Profine comes in easy-to-use paste form and is quickly dispersible in warm water. Wherever and whenever a finishing agent is required in processing textiles, Profine will do a better job for you. We suggest you give it a trial and see for yourself.

Profine
SPECIAL PASTE
TEXTILE FINISH

. . . the trouble-free finishing agent

Procter & Gamble Textile Finishes Sales Dept., Gwynne Building, Cincinnati 2, Ohio

MAKERS OF OLATE, PROXOL, KYRO AND ORVUS PRODUCTS

DURAMOLD SHUTTLES

Last 3 times as long as wood

DURAMOLD—most versatile and strongest molded plastic shuttles on the market

Rugged Duramold Shuttles are manufactured from a single solid, uniform piece of Westinghouse Micarta, remarkably strong, grainless molded plastic, composed of laminated twill fabric impregnated with a phenolic resin, which provides greatest unidirectional strength.

You will get greatly increased shuttle life and lower maintenance costs when you use Duramold Shuttles because the engineering skill of Southern Shuttles Division has taken this superior material and produced the strongest shuttle ever made.

The method of molding and manufacture of Duramold Shuttles permits much greater versatility of construction, such as tip location, eye location, chamber lengths, shuttle widths, etc.

Vastly improved material strength reduces premature failures, prevents splitting and splintering. In fact, the surface becomes smoother with use, thereby reducing friction.

Denser material allows more positive seating of the shuttle parts, reducing the possibility of loosening and rocking to a minimum.

Extension of the tough side wall laminates all the way to the tip greatly increases the strength of this section. Wall sections are thicker for greater strength, and the corners at both ends of the chamber are reinforced. Macerated end blocks are molded into the shuttle to provide flexibility for absorbing shock at these points.

Take advantage of the tremendous savings possible in your weaving room costs with Duramold Shuttles.

Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N.C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, Ill.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

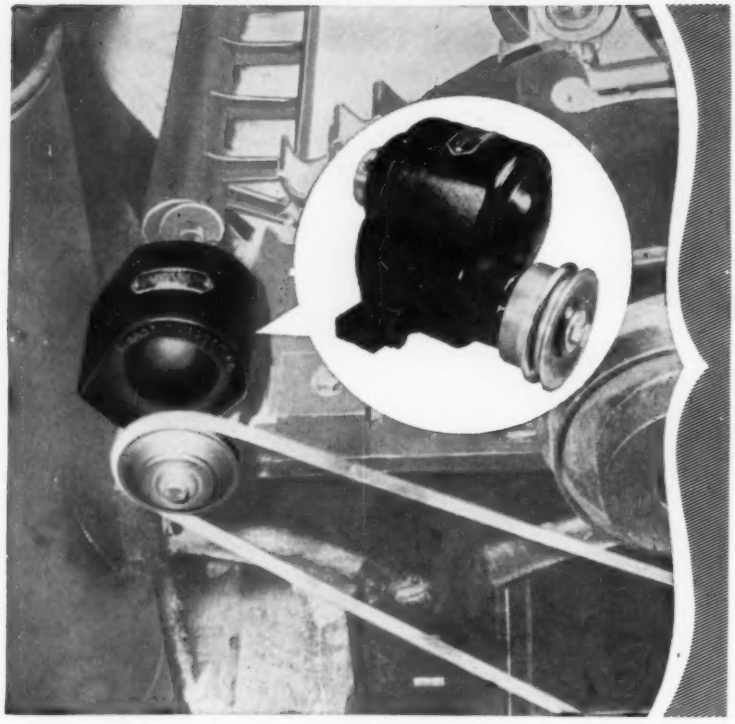
TEMPERED

QUALITY Stehedco CONTROL

STEHIDE

World's largest manufacturer of all type Shuttles
Comparison made them famous

9-5-56



OUTSTANDING SUPERIORITY OF SOUTHERN STATES COMB BOXES PROVED IN NATION'S MILLS

More than 30,000 Southern States Comb Boxes have been placed in service during the past 7 years—equal to 35% of all the nation's cotton cards. Many mills have changed over 100%.

This overwhelming acceptance proves conclusively that mills can easily justify the small investment. Cardroom overseers quickly recognize the savings that result from their use: no oiling, cleaning or maintenance for the life of the unit; steady, even strokes to drive the comb with perfection; elimination of hot-running, leaky, rattling old-style boxes and their headaches.

Southern States Comb Boxes are furnished complete with an adjuster base for mounting on any make of cotton card. Bases are double tapped to permit rapid mounting on either right or left hand cards. Installation is quick and easy.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States ball-bearing, sealed-for-life, Comb Boxes; prove how much they will save you in one year. Write direct for a representative to call at your convenience.

SS® **SOUTHERN STATES**
EQUIPMENT CORP.
HAMPTON, GEORGIA

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 30)

and general manager of Catalina, Inc., Whittier, California, to that of president. **A. Louis Oresman,** formerly president, is now chairman of the board. and will continue in his advisory role. **Richard Figueroa** is newly named vice-president and general merchandise manager.

Marvin A. Julian is appointed weaving overseer of Starr (S. C.) Mills Corp.

Now overseer of carding at Best Value Manufacturing Co., Wilsonville, Conn. is **Jere Torr.**

William G. Casey, manager of the Cavendish, Vt., plant of Kenwood Mills, is now general manager of the consumer fabric division of that company.

Newly elected vice-president of Novelty Yarns Corp. and Tryon Processing Co., both of Tryon, N. C., is **Ray E. Chandler,** formerly assistant superintendent of yarn manufacturing at the Raeford plant of Amerotron Corp.

At the Rock Hill (S. C.) Printing and Finishing Co., **Durward W. Costner** has been named vice-president and general superintendent, succeeding the late James M. Bennett. Mr. Costner has served as director of research, divisional superintendent, and assistant general superintendent.

Clifton E. Allen, formerly treasurer of Jos. D. Doherty & Co., Inc., Lowell, Mass., successor to Royal Little's Atlantic Parachute Co., has been named general manager of the Lowell plant of Massachusetts Mohair Plush Co.

West Point (Ga.) Manufacturing Co. announces the retirement of **H. H. Greene,** vice-president in charge of cotton buying. Mr. Greene who had been associated with the firm for 46 years is succeeded by **D. P. Cook, Jr.,** as head cotton buyer. **P. H. Davis** has been named as assistant to Mr. Cook.

Newly elected president of Cheney Bros., Inc., So. Manchester, Conn., succeeding Ward Cheney, resigned, is **Paolino Gerli,** who is also board chairman of La France Industries, Inc. **James J. Hoyne,** formerly vice-

president in charge of manufacturing for Sidney Blumenthal & Co., is vice-president of the La France firm.

Appointment of **Robert D. Blum, Jr.,** chemical engineer, to the product development staff for Tycora has been announced by the Textured Yarn Co., Philadelphia, Pa. In his new position,

Mr. Blum

Mr. Blum, formerly technical director of May Hosiery Mills, Nashville, Tenn., will be engaged in technical research and development as well as sales development.

Robert F. Gregory, chairman of the board of the Underwear Institute, and a director of the H. E. Bradford Co., Inc., The Winsted Hosiery Co., Inc., and Conn Knitting Mills, Inc., has been elected vice-president and

(Continued on page 190)

Statement of Ownership

Statement required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) showing the ownership, management, and circulation of TEXTILE INDUSTRIES published monthly at Dalton, Georgia for October 1, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Managing Editor, J. Frank Guest, Atlanta, Ga.; Executive Editor, George H. Dockray, Atlanta, Ga.; Business Manager, John C. Cook, Atlanta, Georgia.

2. The owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; Estate of W. R. C. Smith, Atlanta, Ga.; W. J. Rooke, Atlanta, Ga.; O. A. Sharpless, Atlanta, Ga.; T. W. McAllister, Windermere, Fla.; E. W. O'Brien, Atlanta, Ga.; J. C. Cook, Atlanta, Ga.; R. P. Smith, Atlanta, Ga.; Mrs. E. L. Philpot, Atlanta, Ga.; A. F. Roberts, Atlanta, Ga.; S. J. Jones, Atlanta, Ga.; W. C. Herbert, Atlanta, Ga.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

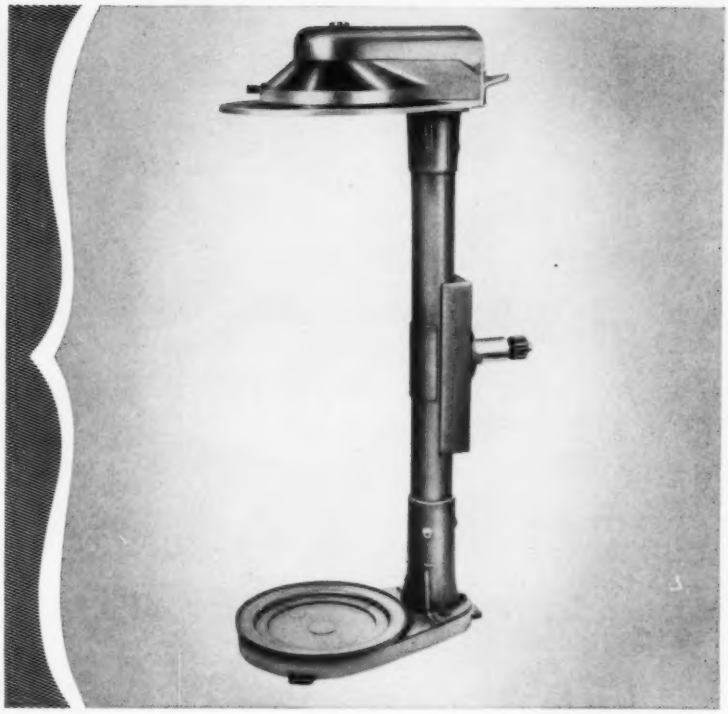
4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

JOHN C. COOK
Business Manager

Sworn to and subscribed before me this 8th day of October, 1956.

SEBA J. JONES, Notary Public
[Seal]

My commission expires February 23, 1958.



SOUTHERN STATES' NEW COILER LINE HAS ALL ENGINEERING AND DESIGN FEATURES WANTED BY MILL MEN

Name the features you desire most and you will find them on Southern States' vastly improved coilers. To provide mills with a truly premium-quality coiler, every engineering and design feature wanted by mill men has been included.

Here are some of them: available for all can sizes . . . ball bearing throughout—head, shaft, and can table . . . cut tooth gears throughout . . . head and base may be rotated . . . strong tubular steel stand . . . precision-ground calender rolls . . . self-aligning pillow blocks on upright and calender roll shafts . . . fully adjustable can table . . . quickly detached coil spring roll-loading device. Others are fully described in our technical bulletin.

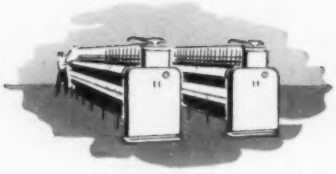
Southern States Coilers are designed for direct attachment to any make of card, left or right hand. Installation is rapid and economical.

Your mill can profit by this coiler that is quality-built throughout to operate at peak performance, with minimum maintenance, for years.

Get the facts from your Southern States representative or write direct to us for Technical Bulletin 203-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

For further information use Handy Return Card, Page 177



"...Higher loom speeds made lubrication difficult!"

When a large Southern weaving plant recently had a problem in loom drive lubrication, Sinclair's Representative V. V. Motley, Jr. was asked for a recommendation. He reports:

"This plant had experienced difficulty in lubricating the gear trains that drive the looms. The reduction gears are shielded and the pinions rotate at about 1700 RPM. A grease could not be applied readily or satisfactorily; and, an oil did not provide the retention necessary for the desired lubrication period. In desperation, mixtures of oil and grease had been used in an attempt to lubricate the gears."

NEEDED: AN ADHESIVE OIL. Mr. Motley continues, "Having had experience with problems of this type, I recommended Sinclair DARTAC #15. I knew it would have the necessary body and adhesiveness needed to solve the problem. Trial runs at this plant were so successful that all four of the company's plants were switched to DARTAC" concludes Mr. Motley.

If you have a problem in textile lubrication, get the benefit of a Sinclair Representative's recommendation. Call a local Sinclair office or write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR TEXTILE LUBRICANTS

AMERICA'S LEADING SYNTHETIC DETERGENT

Send for Sample

and See for yourself

Why

Nacconol® SL

IS THE LARGEST SELLING LIQUID DETERGENT* IN THE TEXTILE INDUSTRY

Many mills are now cutting wet processing costs with Nacconol SL because:

on an equivalent active-ingredient basis Nacconol SL is a better money-value than most dry products. Your detergent-materials cost is less because you get more-cleaning-power-per-dollar.

and

You save on handling costs, too. Nacconol SL, being a liquid concentrate, is easy and clean to handle, requires no dissolving. You simply add water to secure the desired working concentration. For complete technical data, send for Bulletin 326.

* Alkyl Aryl Sulfonate

Nacconol

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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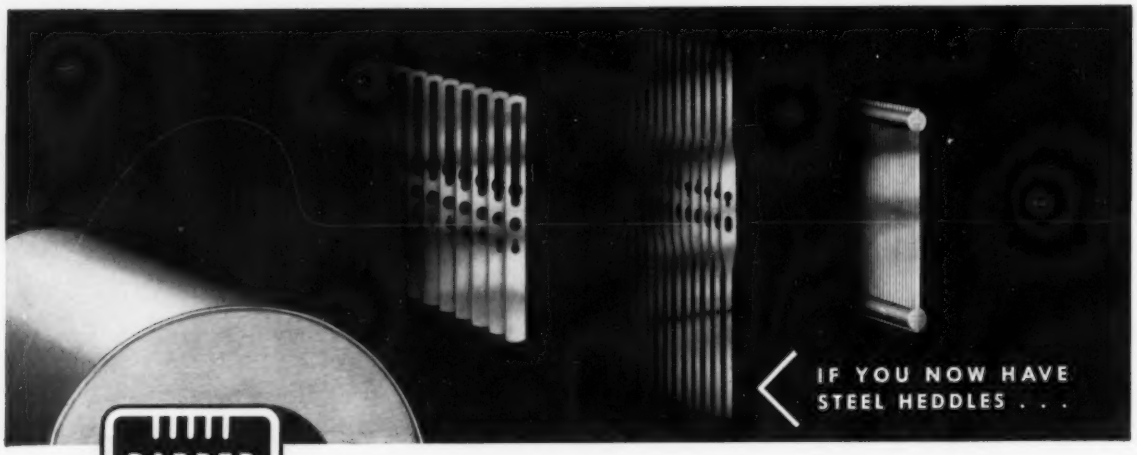
Allied Chemical

Why not take advantage of potential savings?



BARBER COLMAN

WARP DRAWING MACHINE

DRAWS < DROP WIRES (KEYHOLE-TYPE)
STEEL HEDDLES (KEYHOLE-TYPE)
REED

All in One Operation

Your mill may be one of the many now equipped with the keyhole type of steel heddle used for automatic warp-drawing. We know that numerous mills have bought these heddles because, as it happens, they also work better in the weaving. So, *if you now have suitable keyhole flat steel heddles,* you are all set to take the next step and put in Barber-Colman Warp Drawing for *additional* savings. The Barber-Colman machine has a power-driven needle which, at each stroke, draws the proper thread through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately and automatically for each pick by a sequence of mechanical motions controlled by a pattern strip punched in accordance with the designer's draft. Very substantial reductions in drawing-in cost are possible, particularly on patterned goods such as stripes, plaids, and fancy weaves. Possibilities are not limited to large production only nor to fancy goods only, as many short-run and plain goods mills are gaining many advantages through faster pattern changes. *Write for a copy of the current USERS LIST, and ask your Barber-Colman representative to arrange for a free estimate showing the opportunities for savings in your mill.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. — GREENVILLE, S. C., U.S.A. — MANCHESTER, ENGLAND — MUNICH, GERMANY

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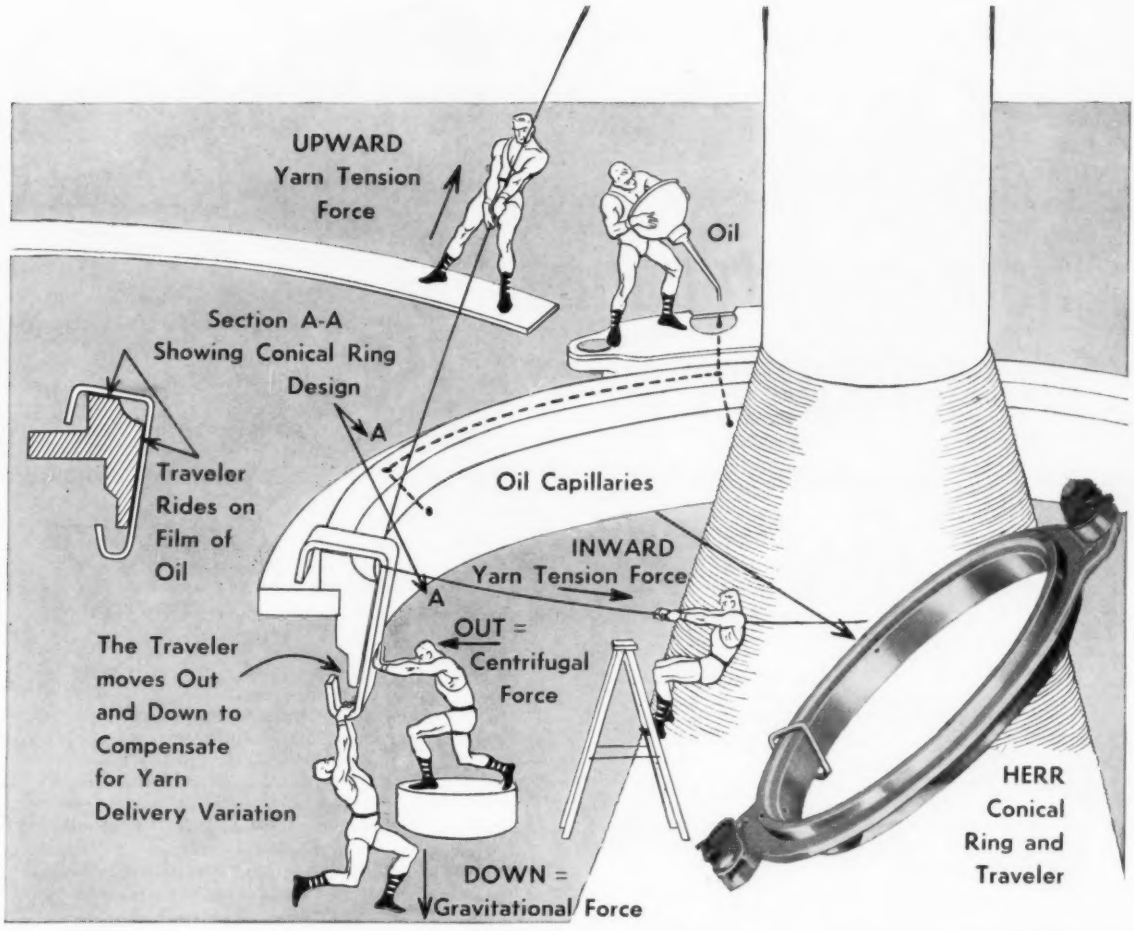
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apartado 7348 Mexico D.F., Mexico	Quimanil S.A. Anilinas e Representacoes Rua Glicerio 537/547 Caixa 5658 e 3431 Sao Paulo, Brazil	Do-Yei Shoji Kabushiki Kaisha No. 7 Awajimachi 1-Chome Higashi-ku Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr.) Ltd. 27 Kothari Building Napier Road Karachi 2, Pakistan



HERR Conical Ring Design forces the traveler out and down, equalizing the yarn tension!

RESULTS

- Yarn breakage is prevented
- Yarn is smoother
- Heavier More Uniform Doffs
- Minimizes Wear on Ring and Traveler

Ask for help on your problem.

The Herr Conical Ring Design equalizes the yarn tension forces (upward and inward) and the Traveler centrifugal and gravitational forces (outward and downward). These opposing forces are balanced and the traveler rides on the ring with minimum frictional contact.

Reservoirs feed oil to the capillary openings. The Traveler distributes this oil to form a microscopic film on which it rides permitting maximum spindle speed with minimum Ring and Traveler wear.

If you spin or twist confer with Herr.

Please Send technical literature on
Conical Rings ☐ *Herr Flyers* ☐

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....

HERR

MANUFACTURING CO., INC.

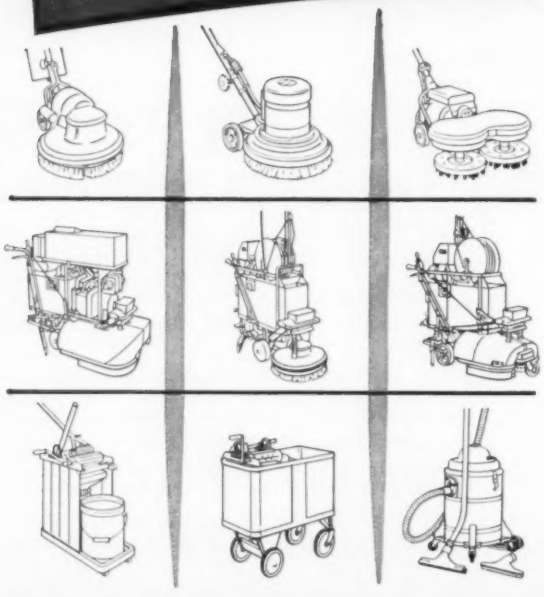
310 FRANKLIN STREET, BUFFALO 2, NEW YORK

Keep your floor-maintenance men happy . . .

with *Job-Fitted* EQUIPMENT!

Choose from the COMPLETE *Finnell* Line

More than a score of models and sizes permits selection of the equipment that's exactly right for your job!



However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines.* From this complete line, it is possible to choose equipment that is correct in size as well as model . . . that provides the maximum brush coverage consistent with the area and arrangement of the floors.

Finnell makes *Conventional Polishing-Scrubbing Machines* in both concentrated and divided-weight types, each in a full range of sizes . . . a *Dry-Scrubber*, with self-sharpening brushes, for cleaning grease-caked floors . . . *Combination Scrubber-Vac Machines* for small, vast, and intermediate operations, including gasoline as well as electric models . . . *Mop Trucks* . . . *Vacuum Cleaners* for wet and dry pick-up, including a model with By-Pass Motor. In addition, *Finnell* makes a full line of fast-acting *Cleansers* for machine-scrubbing . . . *Sealers* and *Waxes* of every requisite type . . . *Steel-Wool Pads*, and other accessories — *everything for floor care!*

In keeping with the *Finnell* policy of rendering an individualized service, *Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you* to help solve your particular floor-maintenance problems . . . to train your operators in the proper use of *Finnell Job-Fitted Equipment and Supplies* . . . and to make periodic check-ups. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1311 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

One in a series to remind dyers and printers that when fastness is the goal, there's more than <u>one</u> way to achieve it.

"But, is the color fast?"

How practical can you get? Just ask the lady! Color fastness is what she wants and color fastness is *all* she insists on... the *class of dye* is up to you.

Your most *practical* choice for optimum fastness is often an Azogen® Printing Color. Here, for instance, the striking red and black print is produced with Azogen Scarlet R and Azogen Printing Black New. And for fastness, brilliance, and ease of application – well, a fairy godmother couldn't do better.

No one class of dyestuffs has a monopoly on fastness. What's more, for specific shades, some types also offer richer colors, simplified production and lower costs. Get the complete story on Azogen Printing Colors and Azoene® Fast Color Salts, Bases and Naphthols. They may help you either upgrade your line at small increase or reduce excessive costs while maintaining the highest standards. Our representatives will be glad to show you how.

bu ALLIANCE

BLACKMAN-UHLER CO., SPARTANBURG, S. C.
ALLIANCE COLOR & CHEMICAL CO., NEWARK, N. J.
DIVISIONS OF THE ANDOVER COMPANY

STOCKS AT: CHATTANOOGA, TENN., GREENSBORO, N. C., CHARLOTTE, N. C., COLUMBUS, GA., PROVIDENCE, R. I.

News about

B.F.Goodrich Chemical *raw materials*

TO MAKE MINIMUM CARE FABRICS SOFT AND STRONG—BLEND WITH HYCAR LATEX

YOU gain in wrinkle resistance when you treat cotton and rayon fabrics with melamine- or urea-formaldehyde resins. But you lose in tensile and tear strength, and the fabric often does not have desirable softness or hand. This problem can be solved by blending these resins with Hycar latex.

By this blending, the amount of resin required for wrinkle resistance can be sharply reduced. There is *no loss* in tear, tensile, and abrasion properties—on the contrary, these values are often higher than in the original fabric. The original soft feel of the fabric is maintained too. Result—minimum care features with no disadvantages!

Hycar latex is a versatile product improver for textiles. It upgrades denims . . . increasing abrasion resistance up to 300%. It can be used as an after-treatment to reduce crock . . . makes a superior binder for non-woven fabrics.

For information write Department ET-6, B. F. Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Hycar

Reg. U.S. Pat. Off.

American Latex

B.F.Goodrich Chemical Company
A Division of The B.F.Goodrich Company

B.F.Goodrich GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

FACTS NOT RUMORS *about* SACO-LOWELL GWALTNEY SPINNING

THE ONLY REVOLUTIONARY SPINNING IMPROVEMENT IN OVER 100 YEARS

NO. 4 OF A SERIES

THOS. D. RUSSELL, PRESIDENT
R. A. RUSSELL, VICE PRESIDENT

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The Russell Manufacturing Co.

RUSSELL MILL
RUSSCO MILL
RUSSCONY MILL
ELIZABETH MILL
BETTIE FRANCIS MILL
ROBERTA MILL

ALEXANDER CITY, ALABAMA

May 18, 1956

Mr. W. F. Lowell, Vice President
Saco-Lowell Shops
60 Batterymarch
Boston 10, Mass.

Dear Mr. Lowell:

I am both happy and proud to inform you that our new SG-1 spinning installation is performing beyond our expectations.

We feel that this spinning installation is the most modern in the country inasmuch as we have water cooled motors and all the latest accessories. The yarn, by the way, from these frames is going into our knitting operations and we are proud to say we have not had a single complaint from our knitting room. The yarn is much more even and has a much higher break factor than our other spinning which includes some comparatively new 1951 model frames.

In addition to improving our yarn and cutting spinning cost we have been able to reduce our winding cost by exactly one-half.

Yours very truly,

THE RUSSELL MANUFACTURING CO.

E. C. Gwaltney, General Superintendent

ECG:lb

"Performing beyond our expectations . . . not a single complaint from our knitting room" says the Russell Manufacturing Co.

MORE FACTS . . .

Operating information on Russell Knitting Yarn Frames

Count	T. M.	Ring Size	F. Roll Speed	Eff. *%	Net Pounds Per **Frame Per 24 hours
7.25's	2.85	3"	200	94	930
10's	2.94	3"	201	95	686
11's	2.94	3"	197	95	611
13's	2.94	3"	199	95	523
17's	3.00	3"	186	96	378
18's	3.00	3"	185	96	355
24's	3.12	3"	155	97	224
26's	3.25	3"	147	98½	200
28's	3.25	3"	143	99	182

* Efficiency includes traveler change and frame change down times.
** Taken from actual Hank Clock daily readings on 240 spindle frames.

More than 70 mills, operating over 450,000 spindles of Saco-Lowell Gwaltney Spinning, are producing stronger, more even yarns of highest possible quality at important reductions in cost. A Saco-Lowell Engineer will be glad to prepare "A Forecast of Savings" for your mill.

SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

620

This number identifies a distinguished addition to low cost finishing chemicals, the cyclic urea resin by Wica

The development of a new manufacturing concept has broken the cost barrier of cyclic urea-formaldehyde resin with Wica Resin 620 at absolutely no sacrifice in desirable chemical characteristics.

Dimensional stability, wrinkle recovery, hand control, transformation of fabric texture, and minimum effect on light fastness are absolutes in Wica Resin 620. Constant minimizing of chlorine retention is important to all reputable chemical houses, and particularly at Wica.

Wica Resin 620 is unique in the whole field of cyclic urea-formaldehyde because it falls in the low-cost category and fulfills the maximum requirements for resin finishing.

Finishers until now limited to paste resins can open new markets—successfully competing in the active market with fine modern finishes.

The price of Wica Resin 620 makes this most desirable of finishes available to a wider range of fabrics than ever before. The famous Wica name guarantees you all the qualities you desire in cyclic urea-formaldehyde resins—and at an unbelievable new, low cost.*

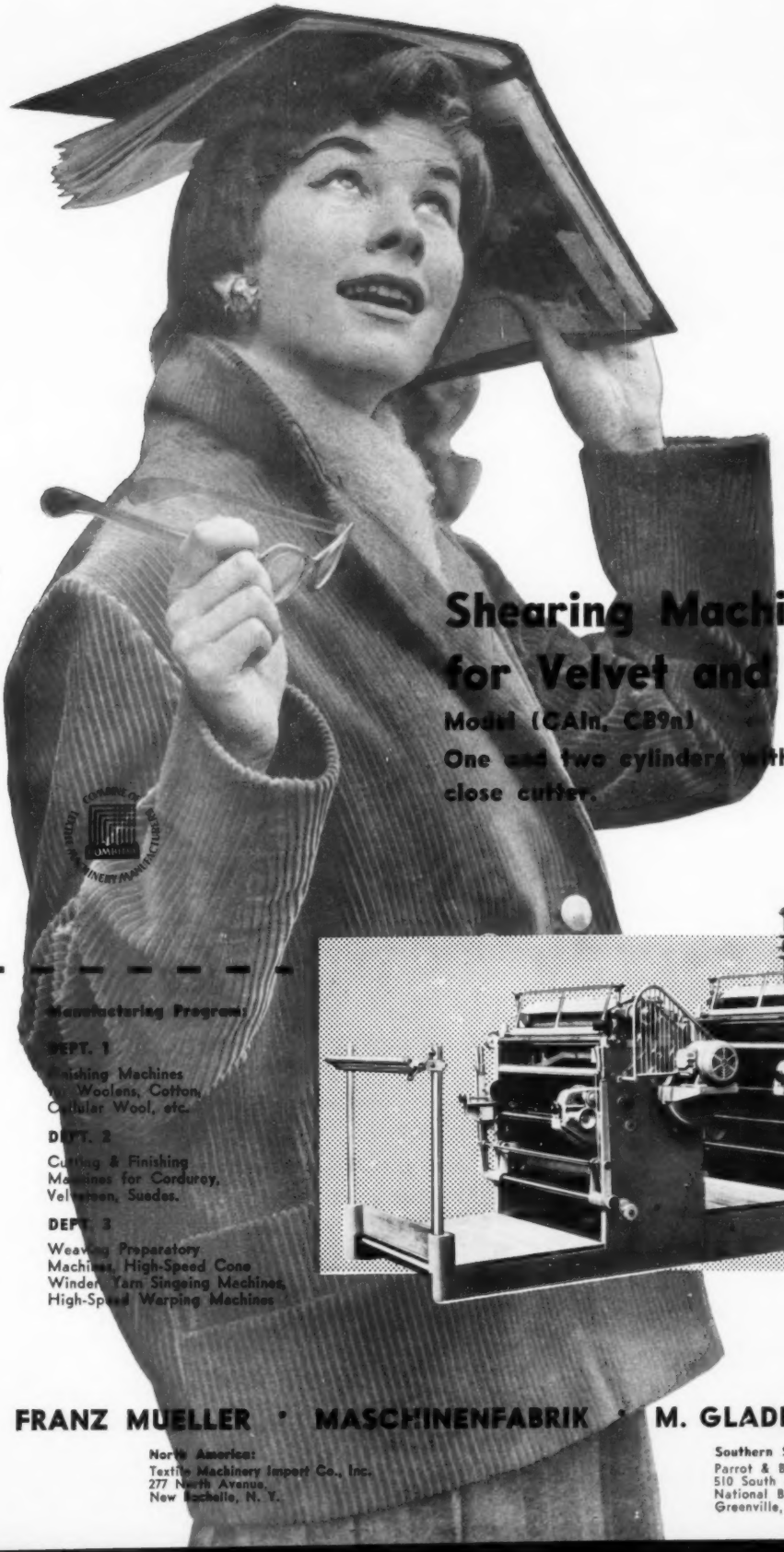
***Please address inquiries to Division CU-620**

Wica

SPECTRUM ACCURACY

WICA CHEMICALS, INCORPORATED, OLD CONCORD ROAD • CHARLOTTE, NORTH CAROLINA

synthetic organic chemicals • textile specialties • latices • adhesives

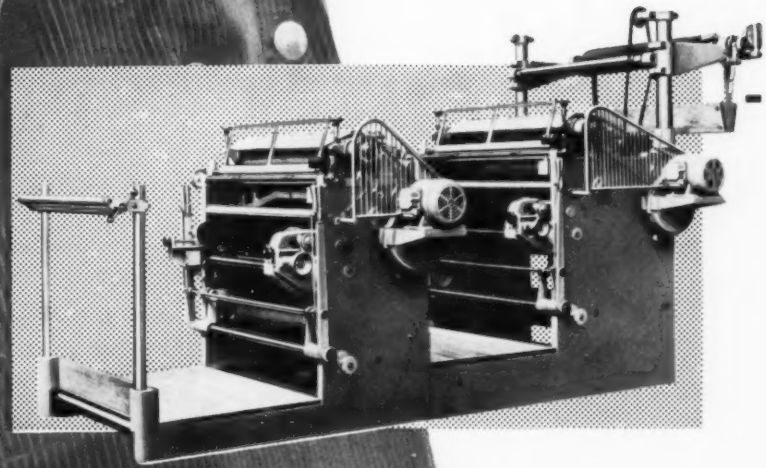


100 YEARS

Shearing Machine for Velvet and Velveteen

Model (CAln, CB9n)

One and two cylinders with large close cutter.



Manufacturing Programs:

DEPT. 1

Finishing Machines for Woolens, Cotton, Circular Wool, etc.

DEPT. 2

Cutting & Finishing Machines for Corduroy, Velveteen, Suedes.

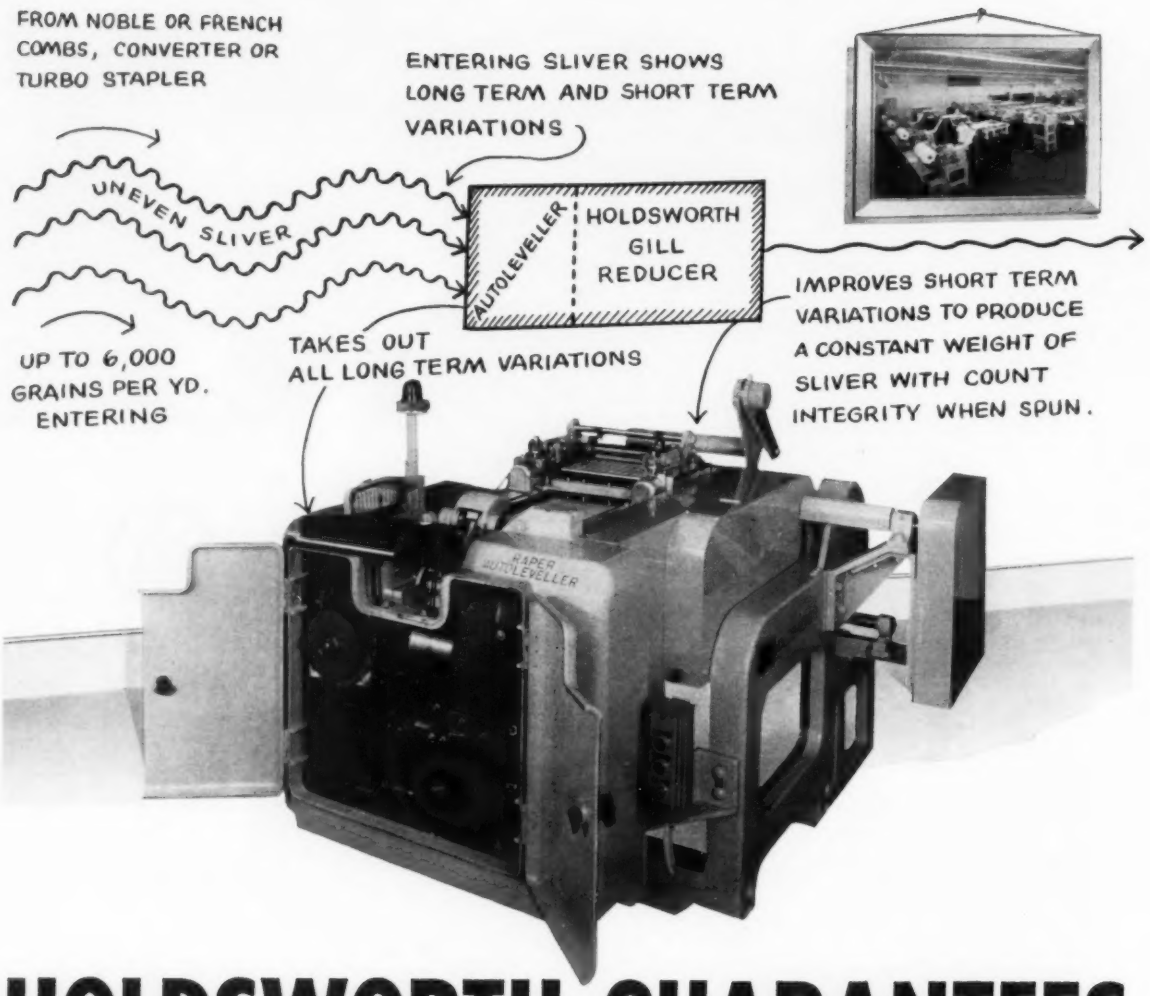
DEPT. 3

Weaving Preparatory Machines, High-Speed Cone Winders, Yarn Singeing Machines, High-Speed Warping Machines

FRANZ MUELLER · MASCHINENFABRIK · M. GLADBACH (Rheinl.)

North America:
Textile Machinery Import Co., Inc.
277 North Avenue,
New Rochelle, N. Y.

Southern States:
Parrot & Ballentine,
510 South Carolina
National Bank Building,
Greenville, S. C.


FROM NOBLE OR FRENCH COMBS, CONVERTER OR TURBO STAPLER
ENTERING SLIVER SHOWS LONG TERM AND SHORT TERM VARIATIONS
UNEVEN SLIVER
AUTOLEVELLER
HOLDSWORTH GILL REDUCER
IMPROVES SHORT TERM VARIATIONS TO PRODUCE A CONSTANT WEIGHT OF SLIVER WITH COUNT INTEGRITY WHEN SPUN.
UP TO 6,000 GRAINS PER YD. ENTERING
TAKES OUT ALL LONG TERM VARIATIONS
RAPER AUTOLEVELLER

HOLDSWORTH GUARANTEES CONSTANTLY LEVEL SLIVER

ANOTHER HOLDSWORTH FIRST!

A new high-speed, single-head, heavy-duty Holdsworth Gill Reducer for single can or single ball delivery, is now available equipped with the *Prince-Smith & Stells'* Raper Autoleveller.

Although any Holdsworth Gill Reducer materially improves short term unevenness, the Autoleveller-equipped machine will also rectify long term variation, thereby allowing weight and count integrity in the roving and spinning operations.

Autoleveller Gill Reducers when used after Noble or French Combing show considerable increase in efficiency, thereby greatly increasing production of that operation, and allowing the top maker to deliver a top of maximum evenness and guaranteed weight.

When used in the first drawing operation, the machine rectifies existing unevenness from dyeing, blending or recombing.

This new machine is a heavy-duty type, allowing ingoing weights up to 6,000 grains per yard. Please write for further details.

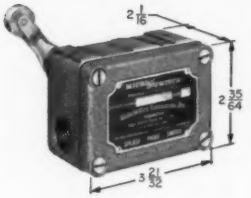
ATKINSON, HASERICK & CO., INC.
ENGINEERS & AGENTS FOR THE WORLD'S LEADING TEXTILE MACHINERY
FRAMINGHAM, MASS. · CHARLOTTE 2, N. C.

HOLDSWORTH MFG. CO., INC.
55 SABIN ST., PAWTUCKET, R. I.

MICRO precision switches

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN

HONEYWELL

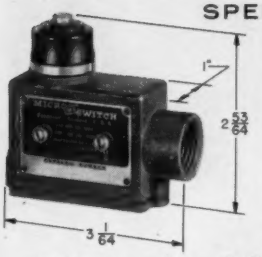


3 SWITCHES OPERATE ROTARY CUTTER WINDER

This MICRO SWITCH splash-proof switch is one of three compact, well-protected switches which control operation of a rotary cutter winder.

One switch prevents operation of the cutter frame if the new shell is not in position. A second switch, capable of handling high inrush current, starts the motor which drives the rotary cutters. The third, the ruggedly housed switch shown, operates the pneumatic cylinders to raise and lower the cutter frame.

36 SWITCHES SPEED AUTOMATIC OPERATION OF FABRIC WASHER



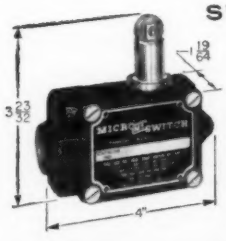
Four of these MICRO SWITCH units are located on each of nine tubs of a machine for continuous washing of all types of fabrics.

The switches are located at strategic points so that any tie-up, tangle or other malfunction will instantly stop the machine before any damage may occur.

Designer of the machine selected the MICRO SWITCH precision switches because:

1. Their action was positive and dependable.
2. Their enclosures were resistant to moisture.
3. They could operate with minimum switch plunger travel.

SWITCH CONTROLS COLOR MARKER FOR TRICOT



This roller plunger-actuated switch is mounted on a tricot knitter to operate a color dauber which marks warp in yards as it passes.

The switch is connected with the dauber mechanism by levers actuated by the timing cam. When the switch is actuated, current is sent through a solenoid, which pulls down the color dauber and makes a color mark about 4" long on the warp.

How these precise switches CUT PRODUCTION COSTS by making textile machinery MORE AUTOMATIC

Textile machinery, both new and presently in use, is rapidly being made more automatic, safer and more productive by the installation of MICRO SWITCH precision switches at strategic points.

Here are a few types of switches which have met specific problems in connection with textile machinery. They are examples of a wide range of switches with an almost inexhaustible variety of sizes, electrical characteristics, housings and actuators to meet textile needs.

Call nearest MICRO SWITCH branch for consultation

For competent advice on the proper switches to make your textile machinery more automatic, safer and more productive, call the nearest MICRO SWITCH branch office. MICRO SWITCH distributors, with complete stocks of a wide variety of switches, are located in key cities everywhere. Look in the Yellow Pages under "Switches, Electric."

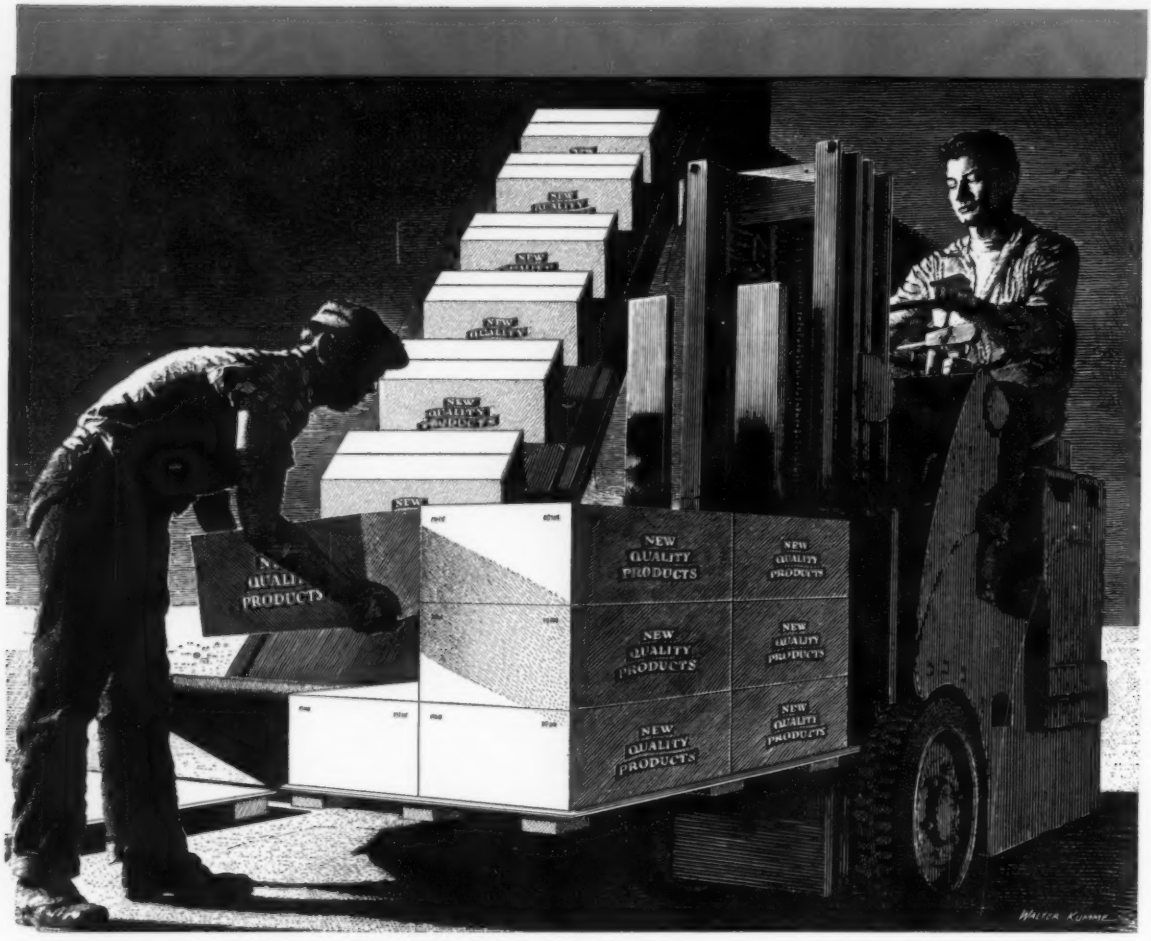
Send for Catalog 83 for complete information on "Industrial Enclosed Switches."

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

HONEYWELL

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS



SAVE IN PRODUCT HANDLING...

Gaylord Boxes

Want to cut your costs of in-plant handling, warehousing or loading? Here are two ways that Gaylord containers can help you do the job:

Speed up! Sturdy, resilient Gaylord boxes are engineered to stand up under fast handling by modern, high-speed equipment.

Save space! Precision-made Gaylord containers are dimensionally "true." They stand straight and solid...even when stacked high.

For containers to promote profit-saving product handling in your plant, call your nearby Gaylord sales office today.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

250,000 decisions... only 4 mistakes!

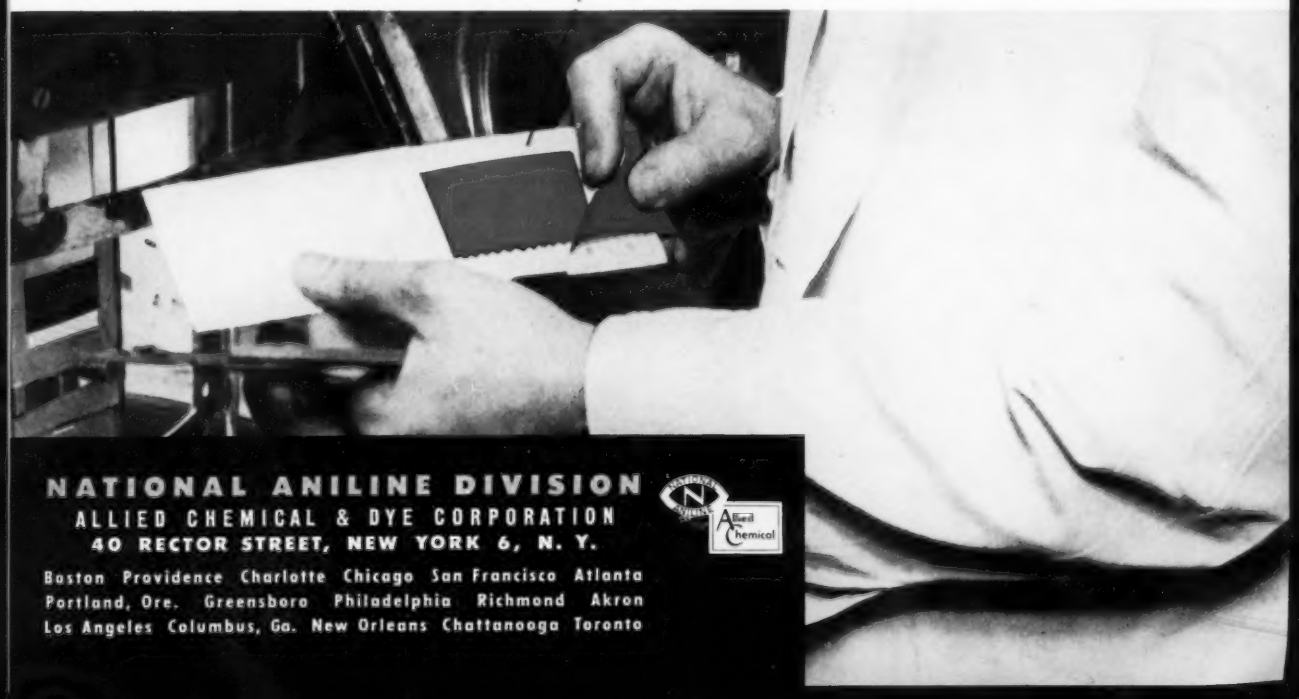
Infallibility is non-existent here below, but National Aniline approaches it in its shade cards!

We have published over a quarter million color ratings. To date *only four have been successfully challenged!* Of these, two were errors of over-conservatism in which we rated colors lower than they deserved.

This remarkable record is clear proof of the absolute objectivity with which National presents its products . . . a source of pride in the integrity as well as the skill and experience of our technical personnel.

National shade cards and bulletins give you reliable standards by which to judge colors in advance. Our Color Standardization Laboratory assures you that every shipment will be up to specifications. Colors will perform as anticipated, without specking, lack of shade-uniformity or other difficulties due to variations in strength and purity.

You are entitled to this high standard of integrity, quality and service. You get it when you do business with National!



NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Charlotte Chicago San Francisco Atlanta
Portland, Ore. Greensboro Philadelphia Richmond Akron
Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

MORTON SYSTEM MACHINES FOR DYEING AND BLEACHING

PACKAGES-
CHEESES, TOPS, RAW STOCK
ROVING - CONES - BEAMS

The Morton System Equipment allows the Dyer to process all types of packages and beams with a simple change of material carriers. Automatically controlled.

—SINGLE OR MULTIPLE KIERS—

To Dye any size lot of packaged yarn or any number of Beams MULTIPLE MACHINE may be operated as single units on separate colors—(Excellent for large lots)—Just right for small lots of all different colors.

"Machines built to fit your own Production and Specifications"

MORTON MACHINE WORKS COLUMBUS GEORGIA

ELEVATED TEMPERATURE PRESSURE DYEING

The Morton Machine Works pioneered in the development of machinery to dye stock and yarn at temperatures in the 300 degree range. These machines are excellent for use on synthetics.

- SAFE -

"Our products are designed and built to comply with the requirements of A. S. M. E. Code and we are authorized to apply the appropriate code symbols."

Manufactured by:

MORTON MACHINE WORKS, Inc.

COLUMBUS, GEORGIA, U. S. A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:

BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES — PUMPS — BEAM AND PACKAGE EXTRACTORS AND DRYERS — DYE BEAMS, ALL MAKES AND DESIGNS — DYE TUBES — DYE SPINDLES — TUBE SPACERS — CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS.

RANDO-WEB® NONWOVENS

Made On The **NEW** RANDO-FEEDER® and RANDO-WEBBER®

In 5 short years the unusual RANDO-FEEDER and RANDO-WEBBER have earned the recognition and acceptance of the textile industry.

NO OTHER TEXTILE METHOD CAN MAKE SUCH

- ✔ High Quality Random-webs...
- ✔ as fast...
- ✔ at such low cost

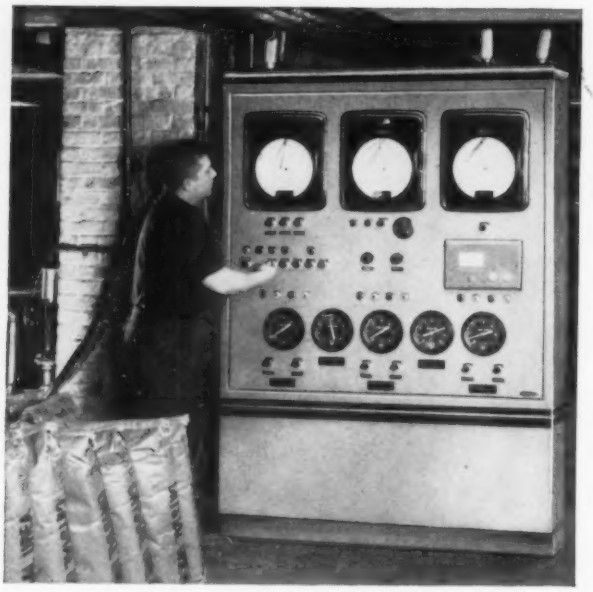
HERE'S HOW ... the RANDO-FEEDER and RANDO-WEBBER produce a continuous, uniform non-woven web of the highest quality ... random orientation of fibers, with square, even selvage over the widest range of fibers. Various thicknesses of web can be made without cross lapping or laminating. And the RANDO-FEEDER and RANDO-WEBBER will do it faster and more economically than by any other method.

Write today for details on the new 40", 60" and 84" machines, and Bulletin 104.

TEXTILE DIVISION
CURLATOR®
CORPORATION
EAST ROCHESTER, NEW YORK

WAUMBEC

Cuts Urea-Formaldehyde Costs 50%!



Foxboro Cabinet for control of U.F. formulation at Waumbec Dyeing & Finishing Co., Inc., contains (top row, left to right): liquid level controller for reactor; dual pH recorder-controller for sodium bicarbonate and acetic acid dilutions; dual temperature controller for reactor jacket and mix temperatures.

...with Foxboro Automatic Make-Up Control

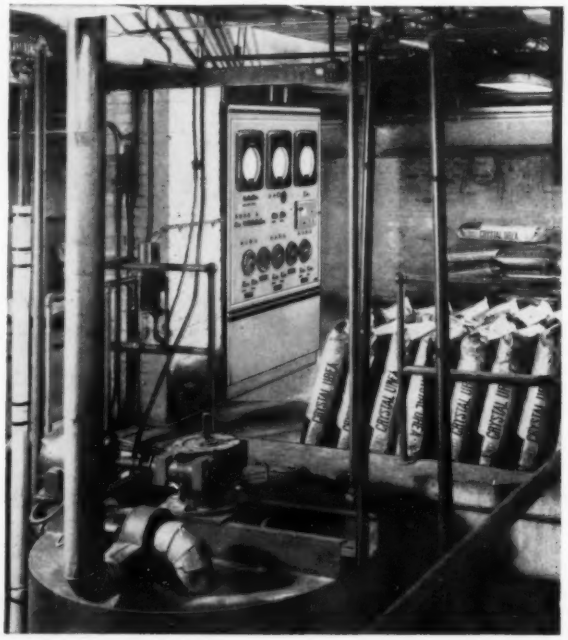
By manufacturing its own urea-formaldehyde under Foxboro Control, Waumbec Dyeing & Finishing Co., Inc., Manchester, N. H., has cut the cost of this important finish by 50%. The advanced, automatic system enables the mill to buy make-up chemicals in bulk, at substantial savings. In addition, formulation can be precisely controlled, assuring a continuous supply of uniformly high-quality U.F. to the padders.

The savings effected by this Foxboro Control System made possible a quick write-off of its cost. Also, Waumbec officials cite the invaluable protection it affords personnel by eliminating practically all hazardous manual operations.

Why not realize similar economies, efficiency, and safety on processes in *your* mill? For information, write **The Foxboro Company, 8411 Neponset Ave., Foxboro, Mass.**

CRITICAL STEPS ARE ALL AUTOMATIC

All control for the reaction is centralized in a single, five-foot Foxboro Cabinet in the make-up room. Formaldehyde filling, pH measurement, the heating and cooling cycle, reactor emptying, and washing, are performed automatically. The operator merely pushes "start buttons" and adds dry chemicals. Signal lights show every stage of the process.



Right: Reactor and formaldehyde storage tanks are located in a pit. The processed U.F. is piped to the finishing room storage tanks.

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TEXTILE PROCESS CONTROL SYSTEMS

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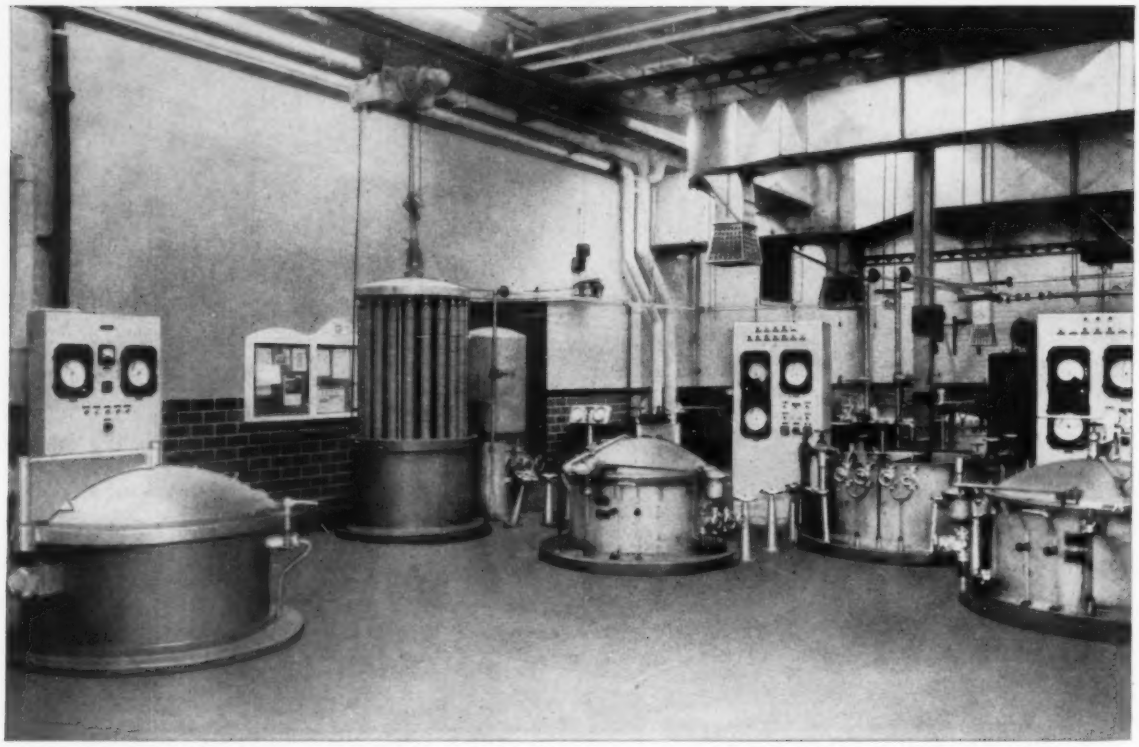

Picture above of the static pressure line at Sevier shows (from left): drying kier and control panel, after-treatment tank, dye kier and control panel, after-treatment tank, second dye kier and control panel. Not shown is a third after-treatment tank.

THIES EQUIPMENT CONTROLLED BY TAYLOR

increases capacity for American Thread Co.

There are two unusual features about the American Thread Company's Sevier, N. C., installation. The dye machine comprises two separate kiers that can be used singly or together, and the dryer operates on the inside-out and outside-in forced hot air principle. Greater uniformity of colors is obtained and drying time is reduced by many hours, increasing the capacity of the equipment proportionately.

The Thies equipment manufactured by B. Thies, Coesfeld, was supplied and installed by Texplant Corporation, Stamford, Conn., and is automatically controlled by a Taylor coordinated package control system.

On the Dryer Control Panel (at left) the first instrument controls the pressure and records the temperature of the hot air, controlling the drying cycle on a temperature and time basis. The second instrument regulates dehumidification.

The Dye Machine Control Panels each have a FULFLEX* Dye Machine Controller regulating rate of rise, hold time and temperature, and a FULSCOPE* Pressure Controller which records inside-out and outside-in pressures. The panels are interlocked for single or dual operation.

We congratulate B. Thies and Texplant Corporation on a smooth running installation and are proud of the fact that Taylor instruments are now standard on Thies equipment. To find out how you can benefit by Taylor's wide experience in the textile industry, call your Taylor Field Engineer or write Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada.

*Trade Mark

Taylor Instruments
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for ORLON*... GENACRYL dyes

Pioneer basic dyes of a new type for acrylic fibers

GENACRYL® dyestuffs are straight, water-soluble colorants differing from conventional basic dyes. They give bright, strong shades on Orlon acrylic fibers—characterized by light fastness fully adequate for the end-use requirements of Orlon and by very good fastness to drycleaning, perspiration, sublimation, rubbing, and washing with soap and soda at 160° F.

GENACRYL Yellow, Pink, Red, Oranges, and Blues yield level and well-penetrated dyeings, by a simple direct-dyeing procedure at temperatures near the boil. Because of exceptional brightness, a wide range of combination shades can be made from the GENACRYL dyes, and these can be readily supplemented by simultaneous application of selected ordinary basic dyes—without complication of the dyeing procedure.

The GENACRYL dyes have been perfected to meet your demands for coloring Orlon and other acrylic fibers, and particularly for Orlon-wool blends. Ease of application and great tinctorial value are important production benefits from their use. For further information, please call on our sales office nearest you, or write us direct.

*Acrylic fiber of E. I. du Pont de Nemours & Co. (Inc.)

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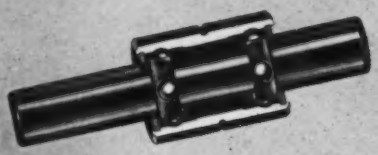
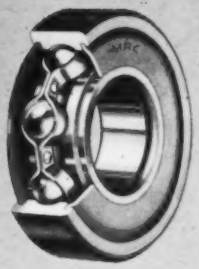
used in the Textile Industry

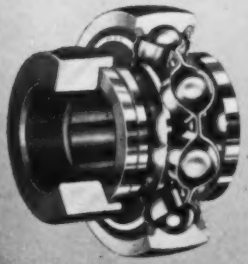
"SYNTHE-SEAL" Ball Bearing



INTEGRAL SHAFT Ball Bearing



DEEP-GROOVE—DOUBLE-SHIELD Ball Bearing



POWER TRANSMISSION Ball Bearing

MRC "SYNTHE-SEAL" Ball Bearings have been used for over 10 years by leading manufacturers of electric motors for textile machinery. These bearings seal out lint and moisture and retain lubricant, reduce maintenance costs and prevent material spoilage.

MRC INTEGRAL SHAFT Ball Bearings eliminate inner races and shaft fits. "Synthe-Seals" protect against dirt and moisture during installation and use. Manufacturing and maintenance costs are reduced in idler pulleys, thread guides, tension pulleys, drawing frame rolls, spinning frame top rolls, treadle rolls and spindles.

MRC DEEP-GROOVE—DOUBLE-SHIELD Ball Bearings are universally used in machine applications involving low torque, high speed requirements. The shields protect the bearings from foreign matter and permit factory prelubrication.

MRC POWER TRANSMISSION Ball Bearings are used throughout the textile industry to accommodate standard cold-rolled shafts in all types of equipment, as well as supporting line shafting. These bearings are provided with M-R-C "Synthe-Seals" to keep out foreign matter and permit lifetime lubrication.

There is an M-R-C Ball Bearing to fit almost any textile application. For original equipment design or bearing replacement, use M-R-C Ball Bearings.

MRC BALL AND ROLLER bearings

MARLIN-ROCKWELL CORPORATION
Executive Offices: **Jamestown, N. Y.**

News IN BRIEF

New Southern Union. A group of southern labor leaders, dissatisfied with the AFL-CIO stand on segregation, have formed the United Southern Employees Association, with headquarters in Rock Hill, S. C. A spokesman for the new union says, "Our sole purpose is to run the AFL and CIO out of the South."

Atlantic Textile Market Proposed. Henri de Lovinfosse, managing director of Usines Cotonnieres de Belgique, has called for "creation of an Atlantic market for the benefit of all countries still belonging to the free zone of our planet," to counteract the fact that the productivity of the European cotton textile industry is rapidly outstripping the purchasing power of the consumer. Otherwise, he says, the free European countries will be forced into trade with totalitarian states. According to M. de Lovinfosse, "The U.S.A., like all other free countries, needs an intercontinental market."

Southeast Leads in Knit Goods. More than a third of the $156.0 million worth of knit underwear and nightwear shipped in the U. S. during the first half of 1956 originated in the states of Ala., Ga., Tenn., the Carolinas, Ky., and Va., according to the U. S. Department of Commerce. These states shipped goods with a value of $55.6 million—up $11 million from the similar period of 1955—while Pennsylvania shipped $39.7 million worth, New York and New Jersey $28.6 million, New England $14.8 million, and all other areas $17.2 million.

Georgia Men to Nassau. The 57th Annual Convention of the Cotton Manufacturers Association of Georgia will be held at the Emerald Beach Hotel, Nassau, Bahamas, May 1-4, 1957. The Association is returning to Nassau, site of the 1956 meeting, at the request of active and associate members.

Wages Beat Prices. Despite propaganda to the contrary, the wages of factory employees have been increasing at a faster rate than living costs, reports the U. S. Chamber of Commerce. During the three years ended this past July, the consumer's price index rose 2.5 per cent, but factory employees' weekly wages went up 19.4 per cent.

Hosiery Gets Subsidy. Exports of hosiery with not more than 2% noncotton content are eligible for equalization payment under the Cotton Products Export Program. Payment is made on a base rate of 6.58 cents per pound, equalized monthly on the basis of the spot price for Middling one-inch cotton. U. S. cotton hosiery exports were 1.35 million dozen pairs in 1955, down 33.5 per cent from 1954 and the lowest since World War II.

New Bonding Process for Cotton. A patent for impregnating cotton yarns and fabrics with dextran to provide an effective bond with rubber and resinous materials has been issued to Commonwealth Engineering Co., Dayton, O. The process is claimed to give the cotton nonstretch properties, opening up new possibilities in power transmission belts and similar items where strength without stretch is needed. The process is also said to make the yarn or fabric resistant to chemical attack and to moisture. The process will be licensed to industry.

Label All Fibers, Says NAWM. National Association of Wool Manufacturers, in a departure from its previous position, has aligned itself with the National Retail Drygoods Association in protesting to Rep. Arthur G. Klein (D., N.Y.) that any laws on textile labeling should be "exactly the same for all consumer textiles regardless of fiber content." Congressman Klein, chairman of the House Commerce and Finance Subcommittee, is seeking industry views on a labeling bill, which he says will not cover wool products, since they are already covered by the Wool Products Labeling Act of 1939. NAWM now advocates repeal of the 1939 act and inclusion of wool in an over-all act [see TEXTILE INDUSTRIES for August 1956, pp. 73 and 75].

Cotton Needs Power Steering? "We [the cotton industry] need very much to invest new money in research, to do some long-range planning. The auto industry gives power steering, while we wear old shirts and look like the devil. We

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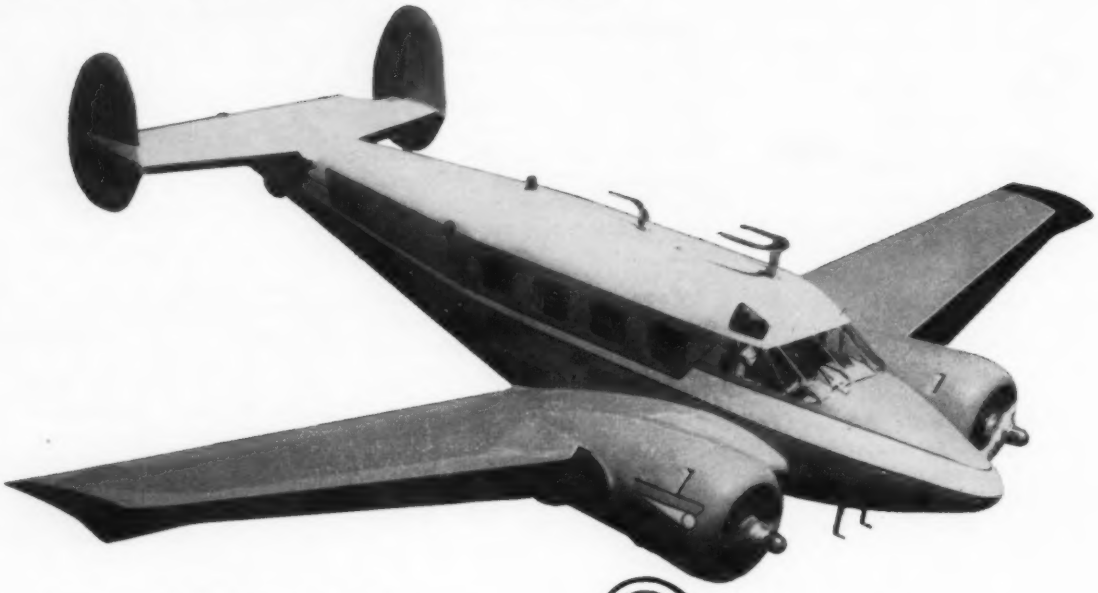

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Beechcraft airfleet of the textile industry

haven't met the test.—*M. K. Horne, Jr., chief economist, National Cotton Council, quoted in* Time.

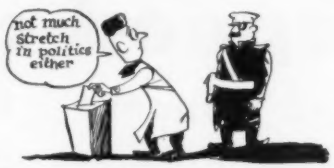
Knitting Arts Attendance. An independent analysis of the 9,506 attendance at the 1955 Knitting Arts Exhibition shows that it was broken down as follows: presidents, vice-presidents, owners, partners, and other corporate administrative officers, 2,097; managing directors, superintendents, managers, and purchasing agents, 1,145; foremen, supervisors, technicians, and designers, 870; technical, production, engineering, operations, and sales personnel other than above titles, 5,394. The average visitor spends 2½ days in Atlantic City, and 4½ hours per day at the Exhibition. The next knitting show is scheduled to be held April 29-May 3, 1957 at Atlantic City, N. J.

ASQC to Hold Meet-Exhibition. The Seventh Annual Conference of the Textile Division, American Society for Quality Control, will be combined with an exhibition of textile testing and quality control instruments. The meeting will be held at the A. French Textile School, Georgia Tech, Atlanta, February 25-27, 1957.

News from PTI. Philadelphia Textile Institute opened this fall with 108 freshmen, 30 of whom are from foreign countries. This is

the school's first complete year as a fully accredited member of the Middle States Association of Colleges and Secondary Schools and the National Collegiate Athletic Association. * * * A group of close friends of Fred C. Scholler, board chairman of Scholler Bros., have contributed $5,000 to the PTI Foundation in honor of Mr. Scholler's 70th birthday. * * * The school has received a grant of $70,000 from the Ford Foundation. * * * Robert C. Bokum, head of PTI's business administration department, has been appointed acting head of the new four-year curriculum in textile management and marketing.

No Stretch in Russia. Observation reported by a recent visitor to Russia: "There is no elastic in Russia—no elastic in foundation



garments, and no two-way stretch. They have buttons and slide fasteners, but no means of stemming out-of-control curves."

Cotton Quota for 1957. A national marketing quota of 11,014,493 bales of 500 lb gross weight and an acreage allotment of 17,391,304 acres for the 1957 crop of upland cotton has been announced by the U. S. Department of Agriculture. The quota must be approved by at least two-thirds of the cotton farmers voting in a referendum to be held not later than December 15.

Cure for Cotton Surplus. Program designed to reduce the "staggering" cotton surplus, as summarized in a recent issue of *Time*: Boost exports of raw cotton by subsidies or loans, for example, U. S. Export-Import Bank loan of $60 million recently granted to Japan to buy American cotton; crop stabilization through minimum acreage allotments and marketing quotas [see above], and the soil-bank program; sell cotton at world prices by subsidizing exporters (3 million bales already sold). American mills, paying U. S. prices, will be protected in foreign markets by a subsidy on exports. *Time* evidently agrees with the Administration that the domestic textile industry needs no protection from cheap imports; it repeats the old cliche, "Actually, Japanese exports are barely 2½% of the U S. cotton-goods market."

Boost Sagging Stretch Socks Sales. Increased promotion of style, color, and construction is the best solution to the problem of sales resistance in the stretch sock market, says the National Association of Hosiery Manufacturers. However, since money to finance adequate promotion is not yet available, the immediate situation

News in Brief

can be improved by withdrawing the low-end competitive constructions of stretch socks from the market altogether, to restore the dollar turnover reduced by the stretch yarn's resistance to wear, with its resulting need for less frequent replacement.

NLRB Unit Ruling Reversed. Court of Appeals for the Fourth Circuit has reversed the ruling of the National Labor Relations Board that Glen Raven Knitting Mills, Inc., must bargain with the AFL-CIO Hosiery Workers union as the certified representative of the knitters at the company's Altamahaw, N. C., plant. The union had failed in an attempt to organize all the plant's workers, but was successful in organizing the knitters. The Court noted that it was the union's usual practice to organize an entire plant, but that it had resorted in this case to a unit for knitters only, because the other employees did not favor a union.

NAWM Wool Facts. The National Association of Wool Manufacturers has published the 85th volume of its annual *Bulletin*. The 331-page volume gives data on As-

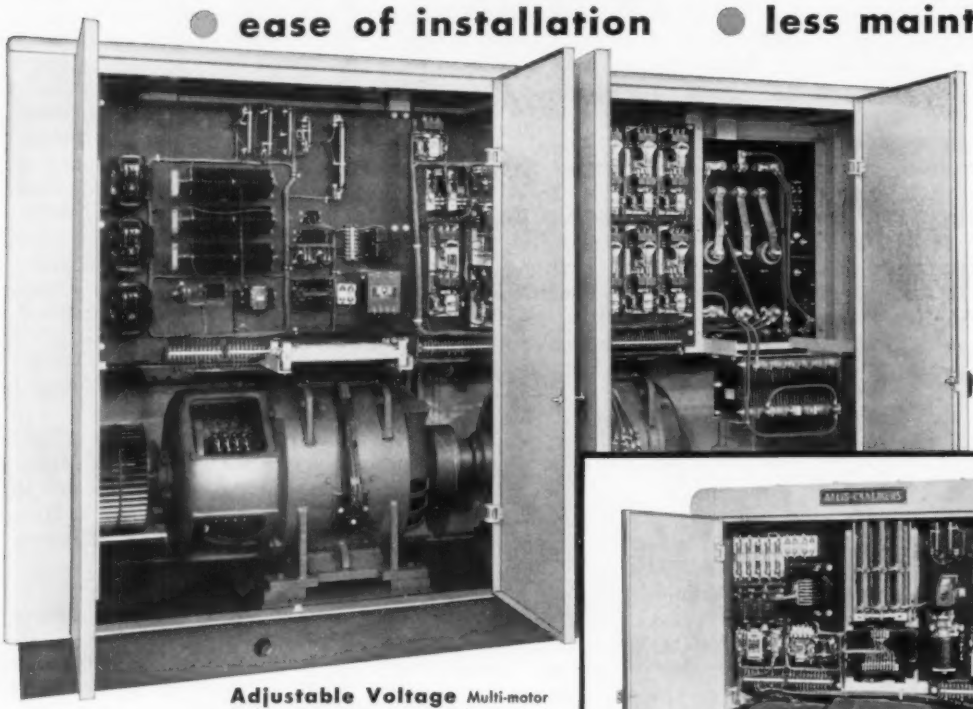
sociation activities, industry statistics, and other matters relating to the wool textile industry. Requests for copies should be sent to the Association, at 386 Fourth Ave., New York 16, N. Y.

Fabrics for Fishes. Trade sources estimate that at least $600,000 worth of fabrics went down with the ill-fated Italian liner *Andrea Doria*. Included were woolen and worsted piece goods, silks, and blends.

Philippine Mill Integrates. The Floro Knitting Mills, Pasig, P.I., are building a spinning mill at a

There's MORE dependable speed control

- controlled response
- no fragile parts
- ease of installation
- less maintenance



Adjustable Voltage Multi-motor *Package Drive* Unit, rated 125 hp, is ideal for many textile applications.

Whether the operation is washing, drying, printing, dyeing, bleaching, slashing or warping — every one of the design features of the Allis-Chalmers Adjustable Voltage *Package Drive* Unit assures you an easy, dependable means of power conversion.

Key to dependability of these *Package Drive* units is the use of a magnetic amplifier to excite the field of the power unit m-g set. Sturdy and simple, this amplifier has no moving parts to wear out . . . no fragile components to be affected by vibrations. AND — there's no wasteful "warm-up" time needed. At the turn of a dial, you get immediate speed control.

This smaller 30-hp unit, like all Allis-Chalmers units, saves valuable floor space. Only component needed near your equipment is the drive motor.

Cost-saving assembly

M-g set and control components are assembled in the power unit enclosure at the factory — saving you installation costs. Enclosures used for 30 through 200-hp units are completely collapsible and may be easily disassembled without loss of rigidity. Larger units have separately driven blowers to provide positive ventilation and pressure even when unit is idle.

Available in units from 5 to 200 hp, the *Package Drive* unit is ideal for any application requiring adjustable speed. Contact your nearby Allis-Chalmers sales office or write Allis-Chalmers, General Products Division, Milwaukee 1, Wisconsin.

A-5189

ALLIS-CHALMERS

cost of about $2 million. The firm is already in the garment manufacturing and retailing businesses.

Auto Fabrics Now Taxed. Certain automobile upholstery fabrics, formerly considered equally suitable for furniture covers, bath mats, etc., are now held by the Internal Revenue Service as being more suitable for automotive use than for any other purpose, and so are subject to an 8 per cent manufacturers' excise tax under Section 4061(B) of the 1954 tax code. Included are certain plastic, terry cloth, corduroy, and similar fabrics.

ACMI Booklet Gives Import Facts. "Time to Talk Facts About Textile Imports" is the title of a booklet containing the answers to sixteen "major questions concerning the textile import crisis." According to the introductory comment, the discussion is based on facts, carefully checked for accuracy and obtained wherever possible from official government sources. For a copy, write the American Cotton Manufacturers Institute, Inc., Suite 504, 1145 Nineteenth St., N. W., Washington 6, D. C.

Now Bemberg Can Be Cross-Dyed with Viscose. Because of a recent development which makes it possible to cross-dye Bemberg and viscose rayon yarns, interesting color effects are being obtained in rugs, laces, tie fabrics, plushes, velvets, and suitings containing these yarns. And, according to American Bemberg, the effects are obtained by conventional dyeing procedure and entail no special processing or added cost.

Full-Fashioned Dacrons. A British knitting firm, Aristoc, Ltd., is reported to be making women's full-fashioned hosiery of 15-denier Terylene (British version of Dacron). The stockings are claimed to be as strong as nylons of comparable construction, have less inclination to form runs, and are warm.

Research at Clemson. A number of research projects were sponsored at Clemson College last summer by the J. E. Sirrine Textile Foundation. Included in the work undertaken by 12 faculty members at the South Carolina textile school were production of constant size roving from variable size sliver, by a device for sliver evening; 2-for-1 tire cord twisting; more-than-2-for-1 fine yarn twisting; pretwister for reducing ends down in spinning [see TEXTILE INDUSTRIES for May, 1954, pp. 96-98]; new shuttle check and special picking motion for looms; study of cotton opening methods; study of yarn elongation; investigation of light radiation in dyeing; development of a machine to knit fabrics without needles, using thread guides only; advanced X-ray research, special carding method for machine picked cotton; study of cotton fiber elongation; and study of cotton fiber density.

News in Brief

Better Roller Gin. An experimental roller gin developed at the Southwestern Cotton Ginning Laboratory, Mesilla Park, N. M., may more than double the capacity of conventional roller gins. A rotating moving knife is used with the regular rollers and other parts of the gin; existing gins can be converted to use the device without much difficulty.

Wool Goods Production Up. Woolen and worsted fabric production during the second quarter of 1956 was 89.1 million finished linear yards—up 8 per cent over first quarter 1956 production, and

MERCHANDISING NOTES

Bergdorf Goodman found in a survey of 7,000 of its customers that 94 per cent prefer "drip 'n' dry" lingerie to traditional fabrics; sportswear and lounge wear have many adherents, and as many as 30 per cent like their dresses in the

new materials, reports *Tide*. However, there is one reservation: "This all depends on how good the cut is, and the quality. When the synthetic is styled as well, the synthetic wins, but this is rare."

Burlington Industries' Galey & Lord Division has registered many of its new patterns for 1957 with the Japan Textile Color Design Center in Osaka [see TEXTILE INDUSTRIES for August, 1956, p. 73]. A spokesman for Galey & Lord stated as his belief that most infringements of American designs by Japanese mills are the fault of the American buyer, who always specifies the color and design, rather than the mill.

Du Pont Co. reports growing interest in marquisette curtains of 140-denier bright Dacron. Finished count of at least 44 x 32 is recommended. Previous marquisette curtains were mostly 70-denier, 52 x 34.

Geigy Dyestuffs, after a survey of carpet and rug buyers in 116 retail stores, reports that over 60 per cent of store buyers consider mothproofing important to their customers.

Jay-Dee Handkerchief Co. has introduced women's no-iron handkerchiefs of 65 per cent Dacron, 35 per cent cotton, to retail for 59¢ to $2.00 each.

James Lees & Sons Co.'s recent 2 per cent price increase will affect only woven carpets; price of tufteds remains the same.

Narrow Fabrics Institute has agreed to underwrite a program of public education on automobile safety belts.

Wellington Sears' Martex Division is showing a bath towel ensemble, "Maharani," which draws its inspiration from an Indian sari, and which includes rounded metallic threads in three colors.

There once was a retailer's daughter
Who fell in a tub of hot water
She emitted a shriek
But her dress didn't streak
*Now she's Coloray's hottest supporter!**

*SERIOUSLY—the washfastness of Courtaulds' Coloray rayon fiber is simply spectacular! Tests under AATCC procedures prove it. In laundries—in home washing machines—180° hot water and more—Coloray colors do not fade, streak or run. Do not stain the white wash. And Coloray washfastness, of course, is unaffected by finishes like shrink and crease resistance. There's *never* been a complaint about the washfastness of Courtaulds' solution-dyed fiber. Never in the 18 years of its existence! What a wonderful advantage Coloray colorfastness is for every kind of apparel and home furnishings. Make sure you feature merchandise made with Coloray, the fiber with caged-in color that *can't get out.*

Courtaulds' rayon fiber with Captive Color...*"can't escape!"*

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For further information, write:

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6 per cent above the comparable period of last year—reports the Bureau of the Census.

Germans Like Synthetics. 34 per cent of all textiles used for the manufacture of German apparel are woven from chemical fibers, says the German-American Trade Promotion Office. [Synthetics were about 27½ per cent of U. S. fiber consumption in 1955.—*Eds.*]

Walsh-Healey Minimum to $1. The Labor Department has set the minimum wage under the Walsh-Healey Public Contracts Act at $1 per hour for industries which had minimums below that level, to bring them into line with the minimum set under the Fair Labor Standards Act last March. The seamless hosiery industry is among those affected.

Union Expansion. The following data on union membership in textile producing states are taken

Union Members in Nonagricultural Employment

	Percentage Organized		
	1939	1953	1956
New Jersey	16.1	35.2	37
New York	23.0	34.4	36
Pennsylvania	27.6	39.9	36
Massachusetts	15.5	30.1	32
Rhode Island	10.2	27.4	30
Connecticut	11.3	26.5	29
New Hampshire	7.3	24.6	25
Alabama	16.1	24.9	24
Tennessee	15.3	22.6	22
Maine	7.2	21.4	20
Virginia	12.8	17.4	17
Texas	10.3	16.7	17
Georgia	7.0	15.0	16
Mississippi	6.5	14.7	15
South Carolina	4.0	9.3	9
North Carolina	4.2	8.3	9

from the National Association of Hosiery Manufacturers' publication *Hosiery News Letter*. Data for 1939 and 1953 were provided by the National Bureau of Economic Research; figures for 1956 came from the National Industrial Council, an affiliate of the National Association of Manufacturers, and were part of an AFL-CIO confidential report.

Silk Imports Up. Imports of raw silk (including re-exports) for the first eight months of 1956 are estimated at 38,642 bales, compared to 33,793 bales for the same period of last year, according to the American Silk Council, Inc.

N. C. State Buys Equipment. The School of Textiles, N. C. State College, has purchased two Saco-Lowell SG-1 spinning frames and a Benninger warper. The spinning frames are believed to be the first of their type purchased by a textile school.

Yarn Sales Tops at Avondale. Customers of Avondale Mills were billed for $2,382,987.99 worth of sales yarn during the month of August, the mill's largest volume for any month since October, 1946. Avondale notes that the price of 10s yarn was 61 cents per pound in August, compared to 64½ cents 10 years ago.

Wool Shipping Costs Up. Shipping rates between Australia, New Zealand, and the east coast of the U.S. were recently increased by

12½ per cent. Rates from Australia are now about $5.76 per cwt (112 lb) for greasy wool, and about $6.95 for scoured, slipe, and carbonized wool. The rates from New Zealand are about a dollar less.

More Cotton Hedged. Cotton purchases are now hedged by many more mills than in the past several years, according to Carl Kish of Merrill Lynch, Pierce, Fenner & Beane, who attributes the trend to the closer relationship between futures and spot cotton.

Clark Scholarship for N. C. State. A Dave Clark Memorial Scholarship Fund has been instituted at N. C. State College, in memory of the late Mr. Clark, owner and publisher of *Textile Bulletin* and *The Knitter*.

Cordage Study Available. Navy-sponsored research in the determination of fundamental mechanical properties of cordage fibers, factors affecting the translation of fiber strength into cordage strength, and modification of hard fibers through chemical treatment are covered in "Factors Affecting the Efficiency of Cordage," by M. M. Platt, Fabric Research Laboratories. Of major importance to industry is the conclusion that Guatemalan and Honduran abaca fiber appear to be equally as useful, on the basis of mechanical properties, as Manila abaca fiber. The 6-page report, PB 121044, may be obtained from Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C Price: 50 cents.

News in Brief

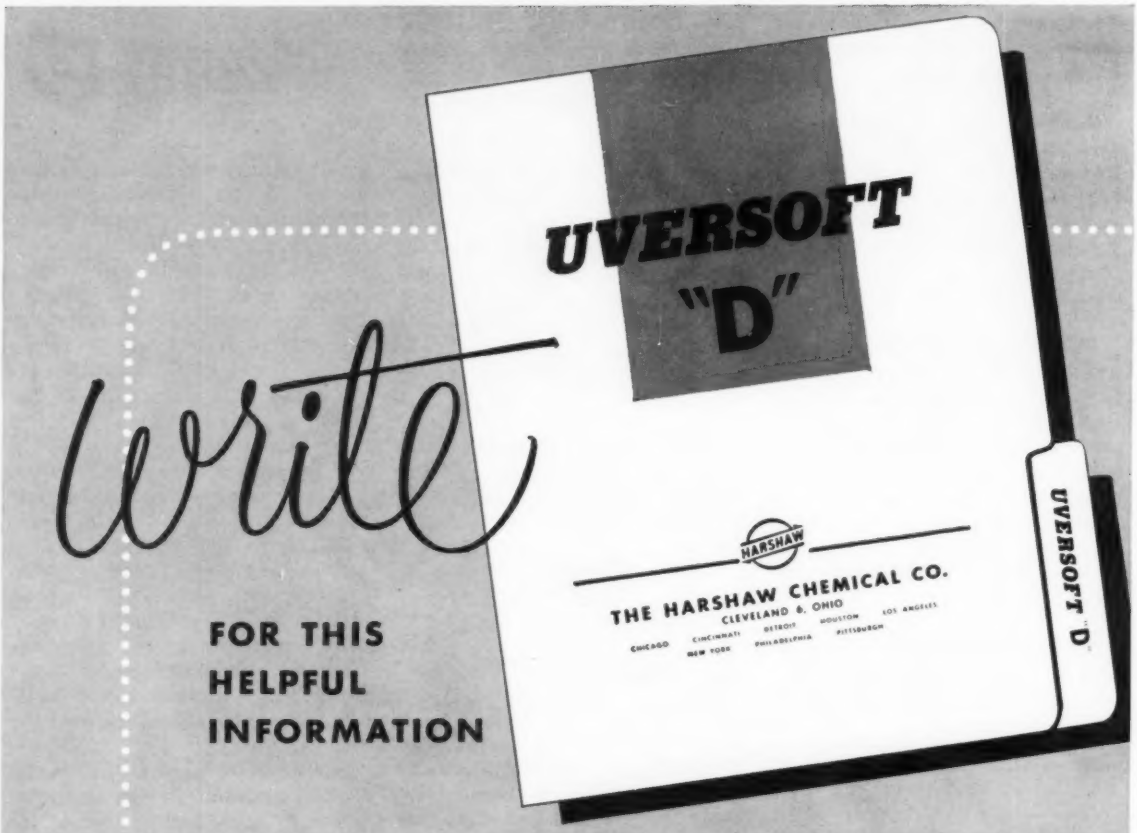
Final Cotton Loan Rate. The U. S. Department of Agriculture has announced that the final average loan rate for 1956-crop upland cotton, basis Middling ⅞ inch, will be 29.34 cents per pound, gross weight. Average loan rate for extra long staple cotton will be 56.62 cents per pound, net weight. Middling 1-inch upland cotton will bring a premium of 340 points.

Maintenance Show to Cleveland. The Plant Maintenance and Engineering Show will return to Cleveland, its birthplace, after a four-year absence. The Show will be held in Cleveland's Public Auditorium, concurrently with the Plant Maintenance and Engineering Conference, on January 28-31, 1957. Information may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Honorary Degrees at LTI. At a special convocation held in observance of the Perkin Centennial, Lowell Technological Institute granted honorary degrees to Senator John F. Kennedy (D., Mass.); Sidney M. Edelstein, president, Dexter Chemical Corp.; H. F. Mark, Polytechnic Institute of Brooklyn; August Merz, Calco Chemical Division; and David F. Connors, managing editor of *The Lowell Sun* and *Sunday Sun*.

Textile School Changes Name. The Provincial Institute of Textiles, Hamilton, Ont., has been renamed The Hamilton Institute of Technology.

Application of Latexes. The uses of latexes in the textile industry



write

FOR THIS HELPFUL INFORMATION

Imparts Soft Hand With Little Reduction In Moisture Absorbency

UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

TECHNICAL BULLETIN ON *UVERSOFT* "D"

Send me technical information on Harshaw Uversoft "D"

My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

The Harshaw Chemical Company

1945 EAST 97th ST., CLEVELAND 6, OHIO

are described in detail in a 135-page book by C. M. Blow, British authority in the field. Copies are available free from Natural Rubber Bureau, 1631 K St., N. W., Washington 6, D. C.

South Africa Hikes Rayon Tariff. The Union of South Africa has raised tariffs on rayon knitted piece goods from 5 per cent, plus an operative suspended duty of 20 per cent, to a fixed rate of 30 per cent. The hike was made to combat Japanese competition.

New Depreciation Methods. The effect of the new alternative tax depreciation methods on the after-tax return from a depreciable asset is analyzed in a pamphlet, "Effect of the New Tax Depreciation Methods on the Earnings of Depreciable Assets," published by the Machinery and Allied Products Institute. The study concludes that there is a substantial incentive for the adoption of the new methods. "No management can properly be indifferent to an improvement of 10 per cent or better in its after-tax return from depreciable assets, especially an improvement obtainable with so little effort and expense," says the author. Obtainable from MAPI, at 1200 Eighteenth St., N.W., Washington 6, D. C. Price: single copies, $1.00; quantity prices on request.

Cotton Still King. Cotton appears to be still the No. 1 cash crop on southeastern farms, reports the U. S. Department of

Commerce. Farmers in Ala., Fla., Ga., Miss., Tenn., and the Carolinas last year realized $9.6 million from sales of cotton, or about one-fourth of total farm income.

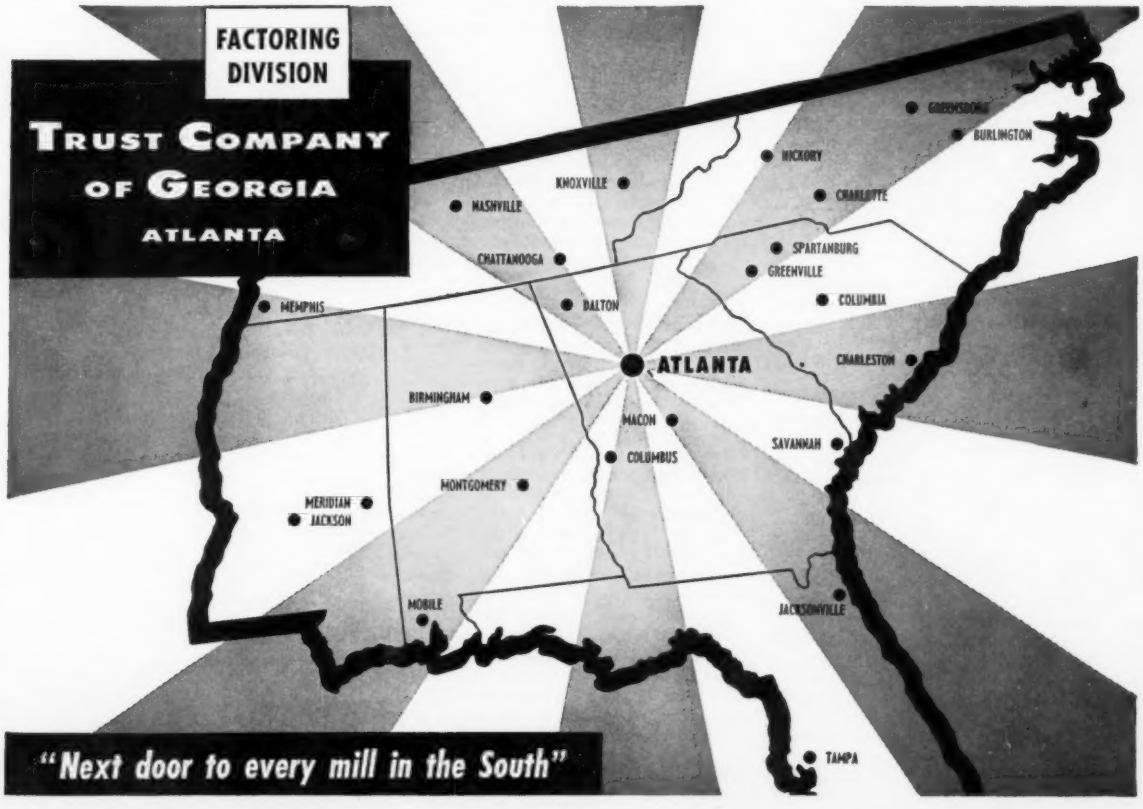
New Process for Dyeing Nylon. Patent applications on a new method for dyeing filament nylon with

News in Brief

dye assistants have been made by Chemstrand Corp. The new process, called "Chemnyle," is claimed to give improved dyeing uniformity and colorfastness with acid and direct dyestuffs. [See TEXTILE INDUSTRIES for October, 1956, pp. 192-193, for details of a process intended to give similar results, which was developed by Cheney Bros. and is available for license from the Du Pont Co.]

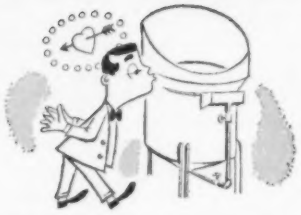
Oppose Fiber Labeling. The Joint Committee on Labeling of Textiles and Apparel, composed of 22 textile and apparel trade associations, has gone on record against the Smith Bill, providing for fiber labeling. Says the Committee, "[The bill is] unnecessary legislation which will create further confusion among consumers and place an oppressive burden upon manufacturers."

(Continued on page 140)



Using Salt Efficiently

by **INTERNATIONAL SALT COMPANY, INC.**—America's largest producer of salt



You Can Save Money on Water Softening—With a "Lixator"

Today, a great many companies using zeolite water softeners are faced with this problem: While the water softener (which needs periodic regeneration with brine) gives excellent performance—regeneration is often costly, time-consuming, and causes substantial waste of salt. This is generally the case when salt is dissolved to form brine without the proper controls.

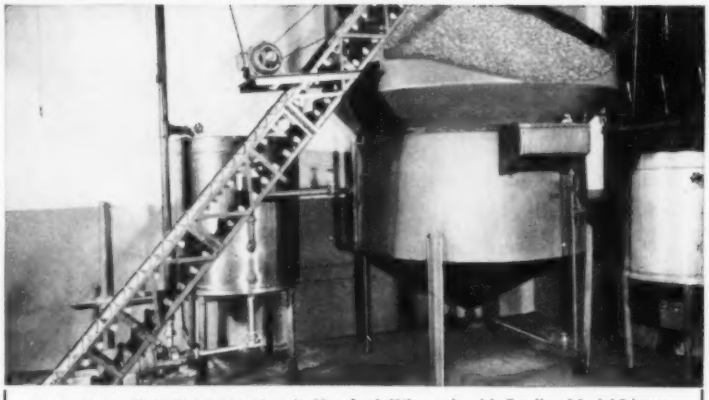
In most plants, however, it *is* possible to reduce this high cost of water-softener regeneration. The method is simple and effective: Always regenerate with pure, fully saturated brine—the type of brine made in a Sterling Lixator. Here are some of the reasons why Lixate Brine can save money for users of zeolite water softeners . . .

The Sterling Model Lixator is the most efficient and economical rock-salt dissolver ever developed. Wherever this fully automatic unit is used in water softening, it reduces the amount of salt consumed . . . eliminates dry-salt spillage . . . and simplifies the entire brine-making process. Developed and patented by the International Salt Co., the Lixator combines rock-salt dissolving and brine filtration in one simple operation. It delivers fully saturated crystal-clear brine *automatically* to any point within a plant. The Lixator is also remarkably easy to maintain, and has no moving parts to get out of order.

In operation, a Lixator need not replace the salt-dissolving tanks furnished by water-softener manufacturers. Instead, Lixate Brine is piped to these tanks—which then serve as the storage and measuring tanks from which brine is withdrawn for use.

Salt handling reduced. Because Lixate Brine is *piped* to points of use, the work of hauling dry salt from storage piles to the location of the water softeners is eliminated. Also, because of this direct-piping feature, the Lixator (and the salt that feeds it) can be placed anywhere in the plant, to make the most efficient use of available space. With a self-feeding hopper for salt, the Lixator operates automatically, without attention, and with little or no salt handling.

Lixators are made in a variety of types and sizes— to meet the brine needs of individual plants. The principle by which they operate can benefit the largest factory, or even a plant of moderate size.



At the Libby, McNeill & Libby plant in Hartford, Wisconsin, this Sterling Model Lixator is used for efficient, low-cost water-softener regeneration. A mechanical conveyor fills the Lixator hopper from a nearby rock-salt storage pile. In *your* plant, a Lixator can also produce substantial savings on salt—and in salt handling as well.

Complete regeneration. Since Lixate Brine is always 100% saturated, it provides complete water-softener regeneration each time. This means that extra regenerations—with the consequent use of more salt—are eliminated. Still another advantage results from using Lixate Brine: Water-softener operators will not use any more of this brine than is needed for each regeneration. What often happens in the case of unsaturated brine is that excess amounts are used in an attempt at complete regeneration. In the long run, this always results in a costly waste of salt.

Keeps water softeners clean. Besides being fully saturated, Lixator Brine—produced in a Lixator from economical grades of Sterling Rock Salt—is also self-filtered, and free from insolubles or other foreign matter. As a result, it will not introduce dirt or other "clogging material" into the zeolite bed of the water softener. This has proved to be a particular advantage in industrial water softening—because the zeolite stays in good condition longer. Lixate Brine is also free from acids or alkalies. Thus, being neutral, it cannot adversely affect the performance of any zeolite water-softening system.

TECHNICAL SERVICE WITH YOUR SALT

Through skilled and experienced "Salt Specialists," International can help you get greater efficiency and economy from the salt you use. International produces both Sterling Evaporated and Sterling Rock Salt in all types and sizes. And we also make automatic dissolvers in metal or plastic for both kinds of salt. So we can recommend the type and size of salt most perfectly suited to your needs.

If you'd like the assistance of an International "Salt Specialist" on any problem concerning salt or brine—or further information on water-softener regeneration—just contact your nearest International sales office.

International Salt Co., Scranton, Pa.

Sales Offices: Atlanta, Ga.; Chicago, Ill.; New Orleans, La.; Baltimore, Md.; Boston, Mass.; Detroit, Mich.; St. Louis, Mo.; Newark, N. J.; Buffalo, N. Y.; New York, N. Y.; Cincinnati, O.; Cleveland, O.; Philadelphia, Pa., Pittsburgh, Pa., and Richmond, Va.

FOR INDUSTRY, FARM, AND THE HOME—

STERLING SALT

PRODUCT OF INTERNATIONAL SALT CO., INC.

AN EXECUTIVE *Views*

THE NEWS IN TEXTILES

Are kickbacks hurting textile chemicals?

IN THE October issue of TEXTILE INDUSTRIES, beginning on page 139, the editors presented a round-up of mill and supplier opinion on charges made against the textile and chemical industries in an article, "Kickbacks Are Hurting Textile Chemicals," appearing in a recent issue of the trade magazine *Chemical Week*.

The gist of the article was that a substantial part — up to 25% — of textile chemical and dyestuff sales is made on the basis of bribes, kickbacks, and excessive entertainment of mill officials with purchasing authority.

More of the comments we have received on *Chemical Week's* article are summarized here.

A summary of mill and supplier opinion is given in the "Box Score" on this page.—*The Editors.*

"Astounded"

The writer of the following letter is purchasing agent for a division of one of the country's largest textile manufacturers:

I had read this article and was astounded by it . . . . One does hear that some small textile mills are dealing with small chemical and dyestuff companies for this purpose, but, in my opinion, even this hearsay could only amount to some 3 to 5% of sales in this field.

Due to technical developments and reliability in time of shortage, it is our policy to buy only from the large reputable chemical and dyestuff companies. Their representatives have never suggested such a plan nor have they complained of lost sales due to this type competition.

Though this practice was widespread in the 1920's and early 1930's, I feel certain that the industry has cleaned itself up since. You must recall that in the referred-to years, dyers, superintendents and foremen were doing the buying. When the responsibility was placed in the hands of one man, the purchasing agent, management had but one person to observe for dishonesty.

I am a member of the AATCC, the Purchasing Agents' Association, and am purchasing agent for a division of one of the largest textile manufacturing companies in the country. With this association I have never heard of an *actual* case of kickbacks being asked for or accepted. I certainly hope I do not.

Pro and Con

Opinions on both sides of the question are presented by the advertising manager for a large chemical company.

. . . . we contacted our sales people and here is what they had to say—

Pro—Textile Honesty

In such a large and basic industry there are bound to be both honest and dishonest factors. It has been our good fortune to deal with many of the first type and to obtain and enjoy a large term textile chemical business in a clean, ethical way with no pressure to do otherwise.

We have seen improvement in reception of salesmen, in purchasing policies and personnel, and objective testing of offered specialties. The clean and open market is increasing and we have no doubts of the sound profit possibilities in the ethical sale of soundly conceived and well-promoted textile specialties.

We find very little record of our men being solicited by dishonest mill personnel for kickbacks nor are our men in position to operate in such a manner.

Con—Textile Honesty

Our comments would be evasive and would be of poor service to you if we did not indicate our feeling that there is considerable truth in the *Chemical Week* article.

This feeling is based on a number of facts. 1) Reports from people we trust of such graft systems as are mentioned in the article. 2) The inability at certain mills for a large percentage of salesmen representing nationally known, reputable companies to secure audience with the man acknowledged to be the purchasing authority. 3) The continuous receipt at some mills of dishonest or evasive answers as to why a product possessing outstanding money value or superior performance possibilities cannot be tested — or having been tested, cannot be adopted. Sometimes this is evidenced by a suspiciously pronounced inertia against trying products of extra value. 4) Some abuses in systems whereby mill managements authorize an external reselling organization [to have] exclusive right to choose and specify textile chemicals for their use.

Where such abuses are evident our policy is to pass over such mills in sales contacts or in introduction of new products. It seems to us that senior management of any mill should be suspicious if there is evident lack of thorough inspection of new products on a continuing basis, if there is lack of carry through from plant laboratory recommendation to plant trial, or if there is outstanding failure over extended periods for old products to be replaced by new.

It is a certainty that the vigor and the imagination of the chemical industry is constantly producing improved and unique textile chemicals.

(Continued on page 73)

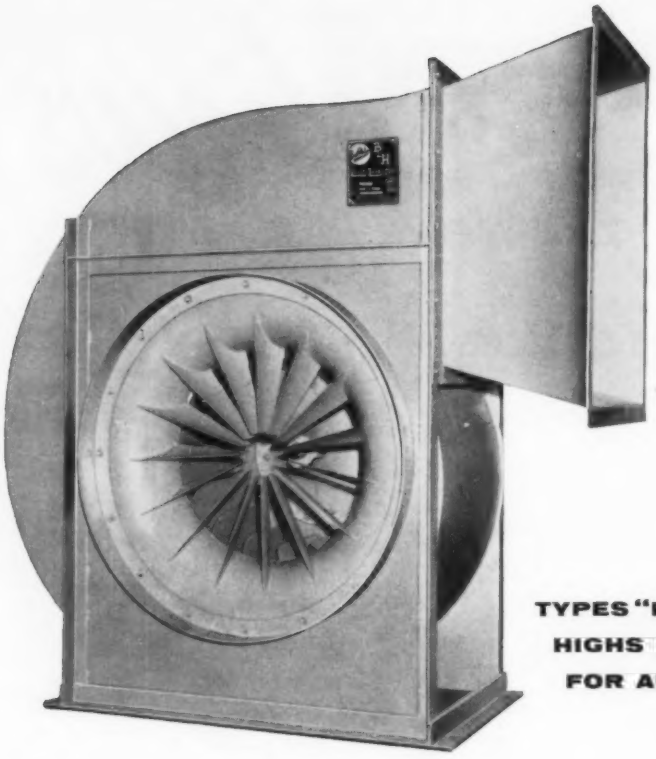
BOX SCORE

How textile mills and chemical suppliers feel about the "Chemical Week" charges of graft in purchasing

From a poll made by TEXTILE INDUSTRIES

	Agree With Article	Disagree With Article	So-So*
	%	%	%
Mill men	12	88	—
Chemical suppliers	23	45	32

*Noncommital, evasive, or presented evidence to substantiate both sides of the issue



"Buffalo"

FANMANSHIP STARTS A NEW AIR AGE OF PERFORMANCE

TYPES "BL" AND "BLH" FANS OFFER NEW HIGHS IN STABILITY AND EFFICIENCY FOR ALL CLASSES OF VENTILATION

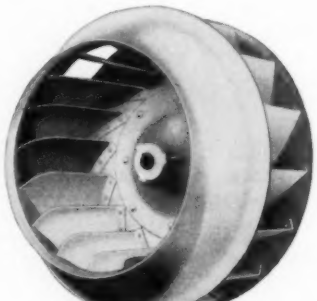
The "Buffalo" Type "BL" Fan is already widely known for its quiet, stable performance from free delivery to shutoff, as proved in many of the biggest installations. Most recent in this advanced fan series is the "BLH", with all the features of the "BL" plus the new divergent outlet, for a high, broad efficiency curve on higher pressure jobs (6¾" water gauge and up). Together, these two great fans give you a choice of the *best* fan for the job — and together, they represent the best of our 79 years of Air Leadership.

COMPLETE INLET-TO-OUTLET STREAMLINING:

INLET — a smoothly curved bell shape with cantilevered inlet guide vanes curved to give air a spin into the wheel in the direction of rotation. No obstructions, no flat or rough spots to cause turbulence and entry loss.

WHEEL — has deep-drawn flange matching inlet bell to form a semi-circular path into the wheel, again, with no rough or flat spots. Blades are the high-efficiency "Buffalo" backward curve design already proven so successful.

HOUSING AND OUTLET — smooth, generously proportioned scroll, suited to the wheel. Ample outlet. In the "BLH", the additional divergent outlet provides an easy, gradual change from air velocity at cutoff to static pressure in the duct — an important reduction in turbulence encountered at this point in high-pressure systems.



For these and other "Q" Factor features that mean better air service for your money, write today for "Buffalo" Bulletins F-102 and F-200.*

**The "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.*

"Buffalo"

BUFFALO FORGE COMPANY

BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

(Continued from page 71)

More Entertaining in Textiles

The author of this letter represents a company in the heavy chemicals field.

In our experience of actual sales to the textile industry, mostly . . . and . . . (both of these may be classed as heavy chemicals), we have not found it necessary to compete on the basis indicated by the referenced article. We have not resorted to kickbacks to *any* degree, although our entertainment in the textile field seems to be somewhat heavier than in other industries.

We can not say that our experience is indicative of practices in the entire textile trade, one way or the other. It would be just as presumptuous on our part to indicate that the article is misleading as it would be to indicate that the article is correct.

We would like to subscribe to efforts to eliminate an apparent growth of certain unethical practices. This would certainly be to our advantage, as this type of thing is foreign to our kind of sales work.

"Ill Advised to Pooh-Pooh"

A supplier of textile finishes agrees that there is cause for alarm over the practices reported by *Chemical Week*, although their extent may have been exaggerated.

. . . . our representatives have reported many instances, not only in small mills but in some of the larger ones, of practices and attitudes which they find it hard to explain in any other way than by concluding that the man who purchases or uses a product is inviting or expecting something other than price and value for his company in the merchandise he is buying or using.

In view of this experience, we would say that you would be ill advised to publish an article which denied or pooh-poohed the condition described in the *Chemical Week* article; although we do believe that the 25% figure is higher than general trade gossip would indicate to be the actual condition.

Without doubt, in our opinion, there is a situation here which the technical and trade press should be willing to face courageously, with the white light of publicity.

"Not in Heavy Chemicals"

This writer disagrees with *Chemical Week*.

We [feel] that the picture presented in this article is [incorrect] and apparently based upon a small segment of the industry. In the sale of heavy chemicals, for example, we do not believe such practices exist.

Any effort you make to present a more accurate estimate of the situation should be a worthwhile service to both the textile and chemical industries.

"Not Distorted"

The writer of this letter is an official of a company supplying dyestuffs and chemicals to the textile industry. He takes exception to some of the statements in the *Chemical Week* article, but in general feels that the authors are on the right track.

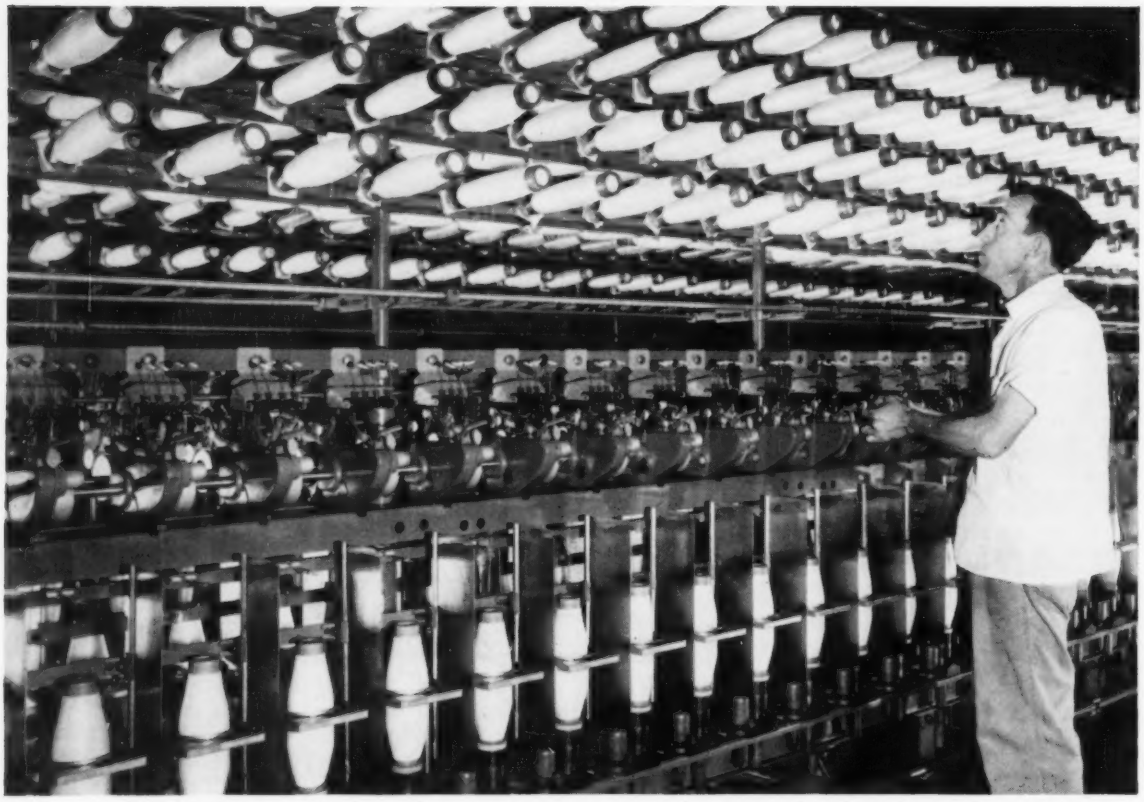
We wish that we could [say] that it presented a grossly distorted picture, but our feelings are very much to the contrary!

We do believe that there are several inaccuracies, as for example the reference to foreign dyestuff manufacturers being "clean" competition but indulging in price-cutting tactics. Since it is our opinion that price-cutting is not clean competition — and as a matter of fact is contrary to the Robinson-Patman Act as they practice it — we cannot understand how it can be called "clean."

The pressure for "kickbacks" which is being used by many of the large vertical textile companies has existed for some time and, with the recent trend to bigger operations through mergers, this tendency has been increasing at an alarming rate.

With regard to some of the other charges which have been made, we do not feel that this industry is any better or any worse than others.

Date		Event	Location
Nov.	1-2	AIEE Conference of Electrical Application for the Textile Industry	N. C. State College Raleigh, N. C.
	2	Philadelphia Section AATCC	Drake Hotel Philadelphia, Pa.
	3	South Carolina Div. STA	Clemson College Clemson, S. C.
	9-10	National Association of Woolen & Worsted Overseers annual convention	Hotel Manger Boston, Mass.
	10	Northern North Carolina-Virginia Div. STA	Cooleemee High School Cooleemee, N. C.
	16	Western New England Section AATCC	Rapp's Restaurant Shelton, Conn.
	27	Atlanta Group, Georgia Section, American Society for Quality Control	Room 1833 Hurt Building Atlanta, Ga.
	27-30	National Chemical Exposition	Public Auditorium Cleveland, Ohio
Dec.	1	Northern New England Section AATCC annual meeting	Hotel Vendome Boston, Mass.
	1	South Central Section AATCC	Hotel Patten Chattanooga, Tenn.
	6	Rhode Island Section AATCC annual meeting	Johnson's Hummocks Grille Providence, R. I.
	8	Southeastern Section AATCC	Dinkler Plaza Hotel Atlanta, Ga.
1957			
Jan.	28-29	National Cotton Council annual meeting	St. Louis, Mo.
	28-31	Plant Maintenance & Engineering Show	Public Auditorium Cleveland, Ohio
Feb.	25-27	Textile Quality Control Conference	Georgia Tech Atlanta, Ga.
	27-28	Cotton Research Clinic, sponsored by National Cotton Council	Gen. Oglethorpe Savannah, Ga.
Apr.	4-6	American Cotton Manufacturers Institute annual meeting	Biltmore Hotel Palm Beach, Fla.
	10-12	Alabama Cotton Manufacturers Association annual convention	Buena Vista Biloxi, Miss.
	23-24	National Knitted Outerwear Association annual meeting	Waldorf-Astoria New York City
	29	Underwear Institute annual meeting	Atlantic City, N. J.
	29-May 3	Knitting Arts Exhibition	Auditorium Atlantic City, N. J.
May	1-2	Fiber Society spring meeting	Clemson House Clemson, S. C.
	1-4	Cotton Manufacturers Association of Georgia annual convention	Emerald Beach Hotel Nassau, Bahamas
Nov.	14-16	AATCC National Convention	Hotel Statler Boston, Mass.



Leesona Model 10 Ring Twisters processing glass yarn at the Seguin, Texas, plant of the Coast Manufacturing and Supply Company. The firm produces Trevarno Glass Fabrics.

Producers of TREVARNO GLASS FABRICS chose Leesona Model 10 Ring Twisters

Years of research and planning went into the decision of Coast Manufacturing and Supply Company to enter the textile industry as processors and weavers of glass cloth. The 85-year-old Livermore, California, firm, with a long history in the manufacturing and distribution of safety fuse for the mining and construction industries, made the carefully-planned move into textiles in 1947.

Ralph E. Merritt, president of the firm, reports:

"After evaluating other types of twisting equipment, Coast Manufacturing and Supply Company decided upon the Leesona Model 10 Ring Twister."

Model 10's are used exclusively in Coast Manufacturing's 800-spindle twister installation in Seguin, Texas, producing a double-tapered package which can be used directly for filling and warping operations without rewinding.

Versatile Leesona Model 10's can also produce a tapered top or straight wind package. They are ideal for processing not only glass yarn, but rayon, spun rayon, nylon, silk, wool, worsted, cotton and combination yarns, and the new bulk and stretch yarns as well.

Make Your Own Evaluation

See how flexible Leesona Model 10 Ring Twisters can improve your own twisting operations. See your Universal representative or write direct.

23.6.11

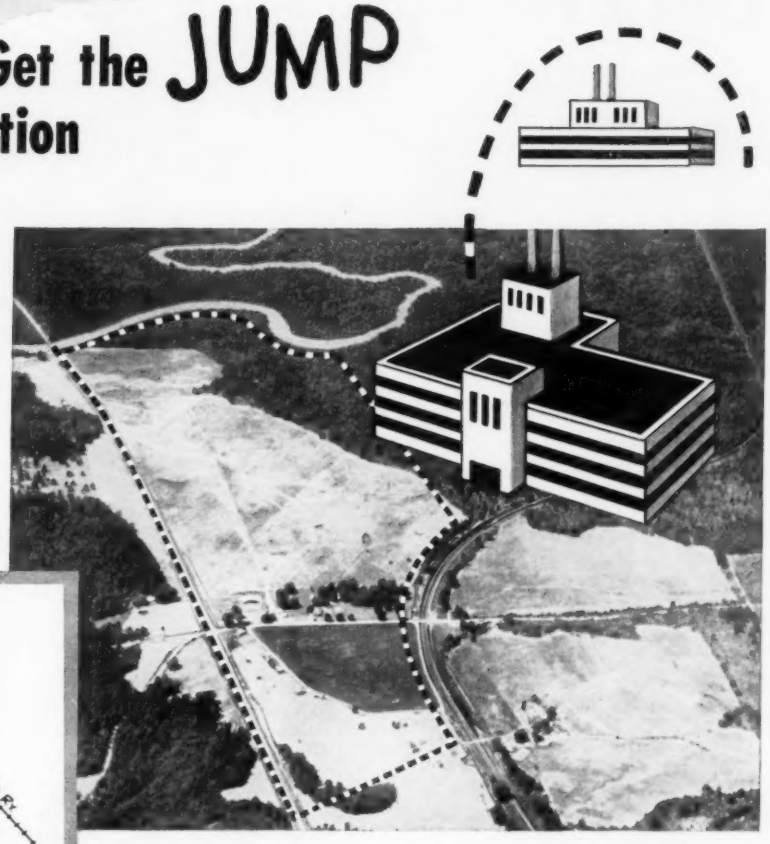
UNIVERSAL WINDING COMPANY

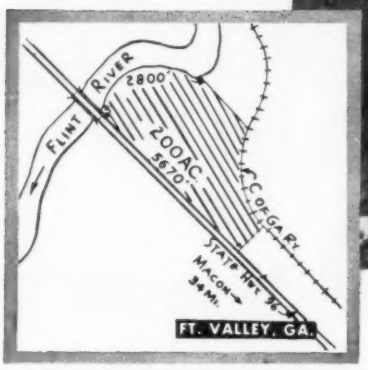
P. O. BOX 1605, PROVIDENCE 1, R. I.

Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles
Montreal • Hamilton, Canada

Winding and Twisting Machinery for Natural and Synthetic Yarns

Get the JUMP on Competition





Build Your New Plant in the Nation's Fastest Growing Market

Cut distribution costs and increase profits—build *your new plant* on this ideal site at Fort Valley, Georgia.

- 200 acres of level terrain adjacent to Central of Georgia Railway, situated in the heart of a thriving market of 22 million people.
- Located six miles west of city limits of Fort Valley, 34 miles from Macon.
- 2,800 foot frontage on Flint River.
- Minimum flow at site 193,881,600 gallons per day.
- Also ample underground water supply.
- Advantageously located for textile and chemical plants or other industries requiring large amounts of water.
- Fast, reliable daily freight service via Central of Georgia Railway connecting directly with 15 major railroads and Seatrain at Port of Savannah.
- 5,670 foot frontage on State Highway 96, which connects with U. S. Highways 341 and 19.
- Population of 89,978 within 25-mile radius.

CENTRAL OF GEORGIA RAILWAY

...The Right Way

This site is adaptable to almost any type of industry. *Investigate* by writing, in strict confidence, for maps and complete data. The Industrial Location Specialists of Central of Georgia will gladly work with you on your re-location problems.

FREE 32-PAGE BROCHURE describing this and other desirable river sites will be sent on request.

MAIL THIS COUPON TODAY

CENTRAL OF GEORGIA RAILWAY COMPANY
INDUSTRIAL DEVELOPMENT DEPARTMENT
Department F
1212 Rhodes-Haverty Building—Atlanta 3, Georgia

I'm interested! Rush me a copy of your FREE 32-page brochure right away.

Name_____ Title_____

Company_____

Street or Box No._____

City_____ State_____

Back Home from the Greenville Show

Looking Ahead to Our Next

90 Years

Looking back on our first 90 years (yes, since 1866, Garland has been serving the textile industry)

. . . and looking back on one of the best Shows we ever attended . . . has set us to doing a heap of thinking.

Old friends, and new friends we talked with in Greenville, convince us we're good for another ninety and more years.

Right now we're thinking ahead with one purpose in mind

. . . ways of meriting your continued confidence by maintaining Garland quality and service.

This accomplishment is our pledge to you.

THANKS!

Peter A. Garland
Laurence S. Garland Jr.
Frederick L. O'Neil
Frederick L. O'Neil Jr.
Harry P. Garland 2nd

Garland MANUFACTURING CO.

Manufacturers of Rawhide Loom Pickers • Sponge Leather Bunters • Rod Lubricant • Hair-on Loom Leathers • Rawhide Hammers and Mallets

56 WATER STREET • SACO • MAINE

When order comes to typ'st, customer's master tape copy is pulled. Master tape, which is inside attached envelope, contains all constant data about customer (name, address, ship to, etc.). When finished with, it is returned to file. Order is typed up on Flexowriter (left photo), using master tape (front) for constant information, and manual typing for variable data. By-product tape is punched at rear, then used for tape-to-card converters, wire transmissions, etc. On IBM tape-to-card converters (right photo), by-product tapes are run through twice to get two decks of cards—one for accounting purposes and a second for order analysis purposes.

Customer service gets boost from IDP

Integrated Data Processing cut order handling time and reduced costs at Kendall Mills

by V. L. O'Neill
Director
Systems and Procedures
Kendall Mills Division
The Kendall Co.
Walpole, Mass.
Exclusive

MECHANIZATION of record-making at the Kendall Mills Division of The Kendall Co. has cut down the clerical detail of processing a customer order by 42 per cent. Actual analysis and count showed that 394 distinct operations (originating, handling, posting, checking, transporting, holding or filing papers) were entailed in the former system. In the new system currently being installed, the number of steps is 228.

Before getting into details, however, some background about the company might be helpful. Kendall Mills bleach and finish the grey cloth output of the Kendall Cotton Mills Division (plus quantities of purchased cloth) into such finished textile products as surgical gauze, absorbent cotton, gauze diapers, cheesecloth, curtain fabrics, wash goods, and interlinings. These are sold to other manufacturers, or are distributed through wholesaler or retailer outlets. Development of orders is the responsibility of dry goods, industrial, interlining, Webril, dairy, and wash goods sales departments.

Under the old method, data were hand posted from the order to various books, registers, sheets, and cards along the route. Some 40 of these were maintained in the several departments and for the different classes of orders. When the long-range program is completed most of these will be eliminated.

Kendall's new procedure is based on the original recording of an order in the mechanical form of five-channel punched paper tape, created as the by-product of typing a multiple-copy shipping order on Flexowriters. In this original writing, use of a pre-punched customer tape for automatically entering all constant information saves as much as 80 per cent of the normal typing and checking of order write-ups.

The composite, by-product tape (which is first used to transmit the order by teletypewriter if the shipment is to be made from a mill other than Walpole) is then fed into an IBM tape-to-card machine to convert the one "common language" of business machines into another — tabulating cards — and thus integrate punched card accounting equipment into the system of data processing. In a second run of the tape through the tape-to-card converter, another deck of cards is obtained for order analysis purposes.

After shipment, an invoice is printed from the cards. The tabulating department work-load was reduced some 30 per cent by elimination of the manual key punching of invoice cards.

In the tabulating section, the order cards are a primary source

Marginally-punched Kant-Slip continuous invoice forms are run through IBM accounting machine (left photo) in the tabulating section. From this an accounts receivable card is summary punched. The summary cards are listed, as an invoice register, on transfer posting paper and balanced to tally card control. Area away from normally operating departments was used as a "laboratory," (right photo) where dry runs and debugging of the system could take place without interfering or interference.

for accounts receivable ledger posting and trial balance tabulations, incoming order analysis reports, stock status reports, analysis of weekly shipments, and a monthly unfilled order report.

The simplification of paperwork and the time to be gained by such processing of original data are suggested by several examples. A daily stock status report supplied to the planning room eliminates the necessity for detail posting to stores balance cards. A daily sheet and a spot order report were among the other handwritten jobs eliminated. The statistical department no longer needs to compile sales analyses and order reports by hand; and clerical functions in the sales department were materially reduced by eliminating manually posted media, such as order registers, inventory records, contract books, and production reports.

But paperwork reduction alone was not Kendall Mills' main objective. The prime target was considered to be "Customer Service" —prompt processing of customers' orders, prompt shipment of goods, prompt billing, and prompt notification of order status. The new system now achieves those advantages and also insures maximum accuracy with minimum checking. The system provides adequate accounting controls. An important dividend is the prompt, accurate, and automatic preparation of "live" reports for management. And the accomplishment of objectives with minimum manpower requirements and at a minimum of expense is not the least factor in an evaluation of the system.

Looking to the future, this development is seen as a primary step that puts The Kendall Co. in position readily to expand automation. The mechanical form in which sales data are originally recorded is translatable into other "machine languages." The means exist to convert coded paper tape to punched cards (as already noted) and vice versa, and to convert either of these to—or from—

Germans produce new fabric effects by metalization

by a European correspondent
Exclusive

● METALIZED fabics introduced in the U.S.A. several years ago were a great sales success, for they gave new and interesting impulses to designers of all kinds. Manufacture was chiefly carried out according to the "Milium" process, whereby the metal powder, finely diffused in a synthetic resin solution, was sprayed onto the textile material.

Before the war a completely different and, it is claimed, more effective process for metalization had been developed in Germany, but it was not yet used for textiles. In this process metals, alloys, or other substances were vaporized onto the most varied materials.

At the end of the war this process also found wide use for the metalization of synthetic materials and for the covering of machine parts with more refined and chemically-resistant metal alloys.

Naturally, the idea of treating textile fabrics in the same way was also considered. Its realization was, however, only possible after German industry had been successful in developing new diffusion pumps, which through their enormous suction capacity could create in a short time the vacuum necessary for the metalization of fibers.

In this high-vacuum vaporization the metal is deposited in an extraordinarily thin layer uniformly onto the fabric. It is only about a thousandth of a millimeter thick and therefore influences neither the feel nor the porosity of the material. As a result, with the German method the "breathing activity" as well as the air permeability of the fabric is maintained.

Fabrics metalized according to the German process have been ex-

magnetic tape. Therefore, this system could be interconnected at any time with other systems using machines that operate by a different "native language." The basic system of mechanical data processing could accommodate itself to any future corporate expansion, centralization, or change in organizational functions, even to locating over-all control thousands of miles from manufacturing operations.

Flexibility exists in the system. When and if desired, for instance, the five-channel tapes for customers served by any branch will be kept in that branch and all orders will be entered by teletypewriter.

How is a system such as this developed? Five elements are necessary to any successful IDP (Integrated Data Processing) installation, as follows:

1. The present manual system should be carefully analyzed and every detail questioned.

2. Before the details of the new IDP procedure are worked out, management must be brought into the picture and must be completely convinced of the benefits to be gained by the change.

3. The system should be completely standardized and, as far as possible, exceptions and special handling should be eliminated.

4. A community of interest must be established between the various machine and form companies whose products will be involved in the installation. Even competitive companies must work together in agreement on what is the best procedure for the particular client.

5. The development of the system must involve the joint effort of the operating people who will be responsible for its working.

Complying with this last element, Systems and Procedures established a "Service Improvement Committee," consisting of either department heads or assistants, met with them frequently, worked with them as operations involved their departments and as the program unfolded, kept everybody fully informed.

A complete and detailed investigation was made of all the "present" procedures. The various reports which would need to be produced from the tabulating cards foreseen as a by-product of the order-writing and invoicing were studied.

The "customer code" set-up, it was found, needed revision. The salesman-numbering system was thoroughly overhauled. The investigators made a thorough analysis of customers' buying habits

Various analyses were made of incoming orders—distribution by class of trade (54 per cent nursery and other dry goods), by regular stock vs special items, customers' shipping requirements (80 per cent "at once"), and by shipping point. Orders were broken down by the number of copies required; lines-per-order was analyzed; a study was made of order typing time and another of checking time.

In a detailed study of 950 cases it was found that a total of 160 different special instructions were being typed on shipping orders for all classes of trade. Of these it was determined 65 could be eliminated.

The studies mentioned above, and others, resulted in coding into the original customer tapes for Flexowriter operation as many constants as possible, to standardize operations. Included in the tapes are those products which a given customer purchases as often as four times a year.

As equipment arrived and was available for testing, our plant people cooperated with us by providing a "laboratory." Here, away from the normally operating departments, we were able to work the bugs out of the machines and the system, make some "dry runs" and actually get under way.

The procedure represents the combined thinking of systems and sales representatives of The Standard Register Co., International Business Machines Corp., Commercial Controls Corp., Western Union Telegraph, and Standard Duplicating Machines Co., working in conjunction with Kendall Mills personnel representing their respective areas on the Service Improvement Committee.

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tensively tested by the State Institute for Textile Chemistry in Badenweiler, and their qualities compared with textiles metalized by other processes.

This testing is claimed to have proved the clear superiority of the German method. It is reputed to supply textiles with an unusually great light reflecting capacity. It strengthens the gloss and stresses the fabric structure, existing pattern, or imprime effect. In addition, the life of the material is lengthened.

The strong light reflection of metalized fabrics should offer protection to people going home at night on the streets. As soon as they are shone upon by car headlights, their clothing flashes very intensively. It is also thought that metalized textiles could serve for shielding from magnetic fields and high frequency currents, and for protection against radioactive rays such as alpha rays and soft Beta-rays, in the same way as the older metalized synthetic-metal laminates.

The protection given by the metalized fabrics against atom radiation is chiefly dependent on the type of the metal vaporized. Thus, for example, the metal cadmium, which is used for the regulation of the activity of nuclear reactors, possesses a great protective effect against neutron rays.

Extensive tests have proved that with the use of a continuously working apparatus, as built by the West German firm of Heraeus GmbH, Hanau, vaporization costs on an average only between 0.30 and 1.50 DM per square meter, [about 6¢ to 30¢ per sq yd — *Editors*] in the vaporization of metals on textiles, papers, synthetic films, and other flat-surfaced materials. The price of the vaporized metal is considerable only with refined metals.

With the help of the new high-vacuum vaporization, completely new kinds of effects can be achieved with textiles.

[In the United States, Continental Can Co. holds patents on a vacuum metalizing process, and is reported to be studying its application to fabrics.—*Editors.*]

How you can

Proper weighing procedure when starting a new lot: After all ends are on the spools, take three or four weighings at closely spaced intervals. After another few minutes take several more weighings. If all register close together, it is safe to put the card back into production.

by William J. Crofts
Exclusive

THE FINANCIAL loss is $25.00 for every hour that a 60-inch-wide woolen card is out of production. This is the accepted figure. For larger units—72- or 84-inch-wide cards—the figure would be higher.

Inexperienced or careless card fixers often prolong the costly down-time of a carding machine when changing lots. One of the common mistakes made by fixers is not allowing the freshly started lot of stock enough time to pass through the card and the correct running weight to get settled.

For instance, the time required for a four-cylinder card to run out from the last dump of the scale pan until the finisher is run out cleanly is about eight minutes, and this means eight minutes by the clock. This figure is for 215 grains per 50 yards of roving; no exact time can be set, since the time allowance is determined by the speed of feed rolls and the nature of the stock. Fine wools with a greater fiber drag take longer to clear the cylinders. Hence with a 105-grain roving made from fine flannel stock, 14 or more minutes must be allowed.

If the running-out time is 8 or 14 minutes, then it is logical to assume that the same period of time must be allowed for the card wire to fill up to normal running condition when the true weight of the roving is established.

SOME FIXERS who consider themselves fast workers bring a new lot through the card, take several weighings of the roving, and as soon as one correct weighing is registered on the grain scale, put the card in production. Then when a test weighing is made when the spools are one-half full, the weight is much too heavy.

Consequently, the card is stopped, weights changed at the first breaker, and the process of running the stock through the card repeated, with the spools of roving turned into waste—a method wasteful of both stock and production time.

The proper procedure is to allow the card to run a few minutes after all the ends are picked up and on the spools, then take three or four weighings at closely spaced intervals. At this time the weights of the roving gradually gain. After another interval of a few minutes, take several more weighings; and if all register close together on the grain scale, then it is safe to put the card in production.

Another check of the weight should be made after an interval of ten minutes by taking off one spool, making two separate weighings to determine if the weights are holding steady; then, if a slight change must be made at the feeder scale pan, making another similar check when the card fixer is certain the change in weight has come through onto the spools.

For slight changes at the feeder scale pan it is best to use wire hooks, one fastened to the scale pan arm and the other at the extreme end of the pan—both equidistant from the pivoting point of the scale pan. Small metal washers of different sizes hung on these hooks give a definite change in weight, while moving the heavy weight on the scale pan arm is uncertain.

AFTER THE CARD has been in production for an hour, or when the spools are full, it is a good plan to take off all spools—4, 6, or 8 spools, as the case may be—and check all spools and record their weights, indicating the position of each spool. The following grain

Try these tips for reducing costly down-time when starting new lots

keep those woolen cards running

weights are for an eight-spool card:

	Left Side	Right Side
Top deck	105	106
No. 3	104	105
No. 2	102	103
No. 1	106	105
	417	419

The side-to-side weights balance nicely, but No. 2 deck is about three per cent lighter in weight than the other three decks. A careful check of the drafting of the web between tapes and aprons may show No. 2 deck drafting somewhat tighter, or it may be that No. 2 spools are winding tighter. In any event, the card must be stopped and drafting adjusted to correspond with the other decks in order to bring No. 2 deck up to standard.

All spools must wind at the same tension, since one or more tightly wound spools mixed in with slackly wound spools give endless trouble on the spinning frame. The ends on a tight, hard spool will snap off at any weak points in the roving, while the ends on a slack spool will climb up the spool on one side and gradually drop down under the spool on the opposite side. In either case they will snap off.

To check the tension of roving winding onto spools, first feel all spools to find out which are too hard; then grasp each spool, stopping it momentarily to make the roving ends sag. If this sag or slack picks up quickly, the tension or wind is too tight and should be corrected.

Any spools that are slow in taking up the slack are about right since it is best to wind the roving onto spools as slack as possible and still make a fairly firm spool. The important point is to keep the tension the same on all spools.

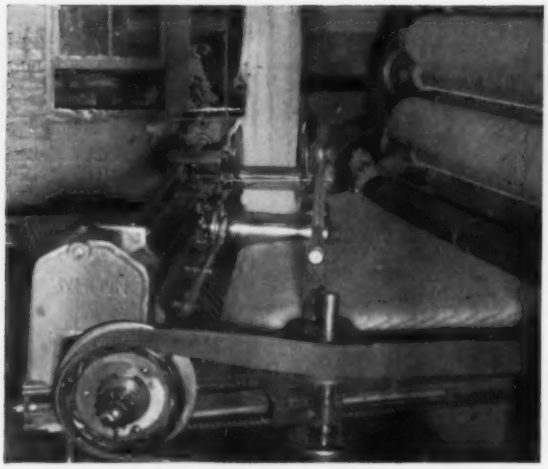
A slack wind helps the spinner in drafting, but too much tension increases breakage between spool drums and rolls. If there is a marked difference in the winding of spools at the card, the spinner cannot adjust his drafts to accommodate both the tight and slack winding.

It is the practice in some card rooms to check the weight of the roving after the card is in production, and when the grain scales register above or below the standard weight to wind off many yards of roving until one correct weighing is obtained. The spool or spools are then sent on to the spinning department. This may hoodwink the spinner temporarily, but if a card is properly adjusted for the stock in production, weighings taken in continuous succession from any given spool should register on the grain scales within one or two per cent of the standard weight.

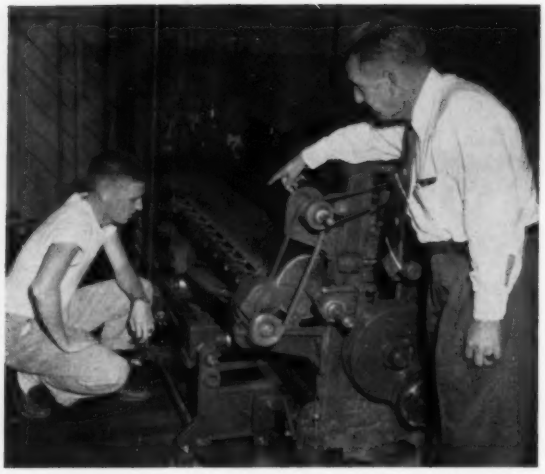
If weighings taken in quick succession average 100 grains, but with a steady and repeated variation from, say, 95 to 105 grains, or a 10 per cent variation, there is something radically wrong. This repeated fluctuation in weights probably originates at one of the

To determine if roving is too tight: Stop spool momentarily to make roving ends sag; if slack picks up quickly, tension is too tight and should be corrected.

If stock is not packed into a compact mass on the feeder table, steady and repeated fluctuations from standard roving weight are likely to occur.



Web at the broad band feed should be laid on the table like the shingles on a roof, at least three layers thick throughout the feed. The more layers, the better the feed.



More layers of web can be put on the table at the broad band feed by increasing speed of Peralta rolls, as explained here by Harry Heath, president of Manetta Mills, to son Allen Heath.

two table feeds. If the stock is not packed into a compact feed on the feeder table apron, weighings such as described will result.

AT THE BROAD BAND feed, the web should be laid on the table like the shingles on a roof, at least three layers thick throughout the feed. If this condition cannot be obtained by decreasing the speed of the finisher feed rolls, then if practical increase the speed of the Peralta rolls and the traveler. This will put more layers of the web on the table and at the same time make a thinner web, which is desirable.

The more layers, the better the feed. However, care must be exercised against packing too much web on the table, which may cause the layers to buckle and double over when they enter the feed rolls. This will lead to a wide variation in roving weights.

Change gears furnished by the feed builders permit the speed of the slat apron to be changed independently of the feed rolls. It is best to keep the surface speed of the slat apron slower than the surface speed of the feed rolls. Never crowd the layered feed into the feed rolls, or the layers will buckle.

AN IMPORTANT factor to consider when starting a new lot is the moisture content of the stock in relation to the preceding lot. The greater the moisture content the greater the loss in weight, since the high surface speed of cylinders and fancies causes much of the moisture to be lost to the atmosphere. A dry stock or one with 10 per cent moisture added, such as for dry spun yarns for knitted fabrics, will not lose in weight and in fact may gain two or three per cent in the humid atmosphere of a card room. If a fresh new lot of stock being started feels much more moist than the previous lot, then allowance for the greater loss in weight must be made by the fixer, and at best he can only make a shrewd estimate.

An accompanying chart gives examples of moisture loss of different types of stock. These are from actual tests made with a reliable moisture meter, and in each case three tests were made.

With the Peralta crush rolls now in general use, burr picking, dusting, and carbonizing of the stock are often omitted in order to cut costs, since these rolls do a creditable job of pulverizing vegetable matter and cotton threads. This foreign matter falls out under the double finisher card.

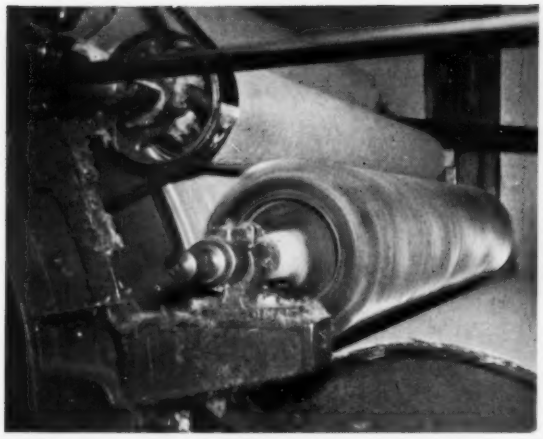
The amount of trash in the stock must be considered when changing weights at the start of a new lot as must the carrying qualities of the stock. For instance, a clean flannel blend may show a fiber loss of only 3 per cent, while at the other extreme a blend containing 50 per cent of short reworked stock might lose 10 or 12 per cent.

As an example of two diverse lots, the accompanying table [on next page] is enlightening.

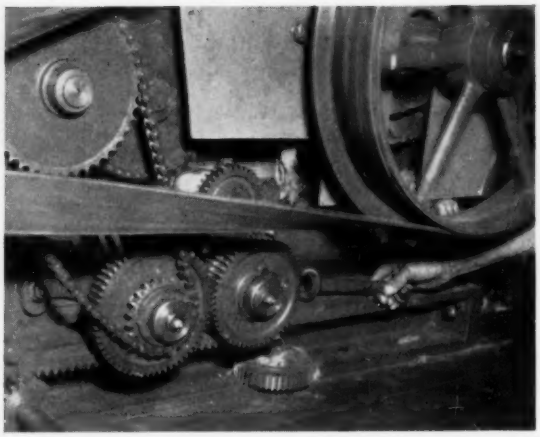
AFTER YEARS of experience a good card fixer acquires an instinct for quickly making a close estimate of the total losses from all causes in any given lot. We will

MOISTURE LOSS OF VARIOUS WOOL STOCKS
Percentage of Moisture by Weight

Blend	In the Bin	In the Feeder	Mid-Feed	Roving	Loss Feeder to Roving
½ Blood Flannel	40	32	25	20	12
80% Fleece Alpaca 20% Reworks	28	23	18	15	8
Lofty B Wool	19	15	13	11	4



The high surface speed of cylinders and fancies causes the stock to lose considerable moisture to the atmosphere.



When determining the change gears for a new lot, the moisture and trash content of the stock must be considered.

assume that Blend B in the table has run out of the card and Blend A is to follow. While the card is being stripped, the fixer can make many tentative changes in order to save on lost production time.

The two change gears driving the first breaker feed roll on B lot are 35 and 26 teeth.

215 ÷ 35 = 6 grains per tooth
215 — 105 = 110 grains total change in weight
110 ÷ 6 = 18-tooth reduction
35 — 18 = 17 teeth

Theoretically, making a reduction from a 35-tooth gear to a 17-tooth gear should bring the desired weight of 105 grains. However, after comparing the two lots, the fixer decides to reduce the speed of the feed rolls 15 per cent more, so he replaces the 26-gear with a 22-gear, which is approximately correct.

Knowing that the finer stock will draft tighter at all drafting points, he increases the speed of the first breaker and tape doffers to anticipate and forestall too much tension at these points. Since the webs between tapes and rub aprons will be tighter, the fixer slows down all the rub aprons and spool drums five or six per cent, making one change at the main draft gear on the condenser.

At the broad band feed, the delivery rolls of the traveler are speeded up or the speed of the traverse motion reduced in order to keep the table feed out to full width, since the finer stock will draw in at each side, making the feed too narrow for the working width of card.

When changing from a fine flannel stock to a much coarser blend, all these changes must be reversed.

When the card is ready to start, the fixer watches the scale pan. It should trip the clutch when the presser board is all the way out. If the pan fills up too quickly or too slowly, the feeder comb is adjusted accordingly.

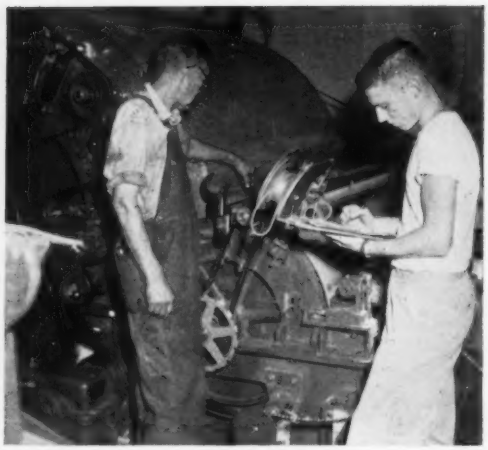
Modern feeders have hand wheels for setting the comb closer to or away from the spike apron, with a numbered scale indicating the position of the comb. It is best to keep this comb set close to the spikes, but on rough blends this is not always practical, since matted clots of wool or pieces of rags will catch and stop the comb, causing a shutdown of the card.

On old makes of feeders it is a good plan to set the comb close to the spikes, with about ¼ inch clearance, then install a stop in the slot so that the comb may at any time be moved closer to the spikes without danger of hitting the points of the spikes. Notches may be filed on the outside of the comb's foundation casting to register the position of comb. If one end of the comb is farther away from the spikes, then that side of the feed table will be thicker and heavier. On fine yarns especially, setting the comb close to the spikes will help greatly towards more uniform roving weighings. *(Continued next page)*

PERCENTAGE WEIGHT LOSS OF TWO WOOL STOCKS

Roving	Moisture in the Feeder	Vegetable Matter	Moisture Loss Feed to Roving	Estimated Fiber Loss	Estimated Veg. Mat. Loss	Total Loss
Blend A 105 grains 100% clean per 50 yd flannel wool	32	3	12	3	2	17
Blend B 215 grains 50% B Wool per 50 yd 50% reworks	23	12	8	12	10	30

The comb at the Bramwell feed should usually be set close to the spike apron, but on rough blends this may not be practical.



Making a record of the settings on each card for each size and blend will cut down-time when new lots are started.

(Continued from page 83)

IF THE SCALE PAN fills three-quarters full or exactly full this is ideal, and as the stock builds up on the table the feed is checked for compactness. If any thick and thin places are detected by the finger tips, steps must be taken to correct this condition.

Spinning power consumption cut 10% with oil additive

● IN THE process of searching for ways to reduce operating costs, management of Willingham Cotton Mills, Macon, Ga., investigated the use of additives in lubricating oils. It was found that savings in the form of reduced power consumption, less frequent lubricant application, and lower maintenance costs resulted from the use of the additives.

A specialty lubricant or additive, Bardahl, was tested first on one spinning frame. All oil was removed from the spindle cups, which were refilled with a blend of 20% Bardahl SAE 10 and 80% regular spindle oil.

Before this test, an amperage log had been carefully kept on the amount of current used by the electric motor driving the frame. The current flow was a stable eight amperes.

A few hours after the mixture was placed into the spindle cups, the current flow was reduced to approximately 7⅛ amperes, the ammeter needle wavering between a reading of 7 amperes and 7¼ amperes. Readings were taken under identical load.

Power saving amounted to approximately ten per cent.

Following this, a 20% solution of Bardahl SAE 50 was blended into the lubricant for the roll stands. Immediately, a reduction in the wear of the retaining arms of these stands was noted, and the replacement of these arms due to wear has been practically eliminated.

Subsequently, a 20% solution of Bardahl SAE 30 was blended into the gear oil which is used to lubricate the power transmission gears and shafts of the spinning frames.

Because of the pressure on the retaining arms of the roll stands the solution in this application has been held at 20% as a safeguard against wear. In all other parts of the spinning frames, after lubricating with a 20% solution of Bardahl for approximately two weeks, the mixture was cut to 10% with continued good results.

The vice-president of the mill, Slade Willingham, stated that he has been able to extend the oiling period on these frames (13,000 spinning spindles and 3,000 twisting spindles) from a two-week interval to a three-week interval, and that usually less oil is required at the three-week oiling interval than was required at the two week interval; though in some cases the oil required for the three-week oiling is equal to that required for the two-week interval before the additive was applied.

Recommended proportions:

Spinning frame roll stands: 20% solution Bardahl SAE 50, constant usage due to extreme pressure.

Spinning frame spindle cups: 20% solution Bardahl SAE 10, reduced after two weeks to 10% solution.

Spinning frame oil-lubricated gears and drives: 20% solution Bardahl SAE 30, reduced after two weeks to 10% solution.

Other machinery not under extreme pressure: 20% solution Bardahl in applicable viscosity, reduced after two weeks to 10% solution.

Other machinery under extreme pressure: 20% solution Bardahl in applicable viscosity.

Applications requiring grease lubricant: Bardahl all-purpose grease (heat resistant and water resistant).

Note: In above applications, if viscosity recommendation is not consistent with viscosity of lubricant normally used, use nearest applicable viscosity.

There are gears or sprockets to increase the speed of the automatic assembly which controls the number of dumps per minute of the scale pan. If the 2½" diameter feed rolls are making one turn per minute and the scale pan is making one dump per minute, increasing the dumps to three every two minutes will make a more compact feed on the table and eliminate the thick and thin condition. This will increase the weight of roving 50 per cent, so the speed of the feed rolls must be decreased 50 per cent.

As the new lot progresses through the card the drafts are checked first at the Peralta to determine if the web from the doffer is drawing tight, and at the broad table feed to be sure the layers of the web are making a compact feed wide enough to make full waste ends.

After the finisher card has run a few minutes all drafts are checked—the web from tape doffer, the draft of webs from tapes to aprons, and the tension of roving to each and every spool. All changes that may seem necessary are noted. After several test weighings and assurance that the true running weight has been established, then any minor changes in both the weights and drafts may be made at one shutdown of the card.

It is a good plan to make a record of the settings of each card in the room for every size and type of blend. These include the setting of the feeder comb, size of both feed roll change gears, position of weights on scale pan, size of change gears at both first breaker and tape doffers, gears in use on the broad band feed, draft gears at condenser, and the size of production gear or the speed of spool drums. Making a record of all these items will help the fixer to save on production time when he is called on to start a new lot.

All mills must make samples, and with a sample of 50 pounds or less, minor changes in weight may be made quickly by changing the size of the production gear on the condenser, which prevents the making of excessive roving waste. Sometimes a 50- or 100-pound sample must be split, one half to be made 100 grains and the remainder 120 grains. In such a case a quick change at the production gear saves the making of more waste than justified by a small sample.

ACKNOWLEDGEMENT

The editors are grateful to Harry Heath, president of Manetta Mills, Lando, S. C., for permission to make and reproduce with this article, most of the photographs.

How to get level dyeing on nylon carpeting

● ALL FORMS of nylon are being dyed in a complete range of shades: rawstock, yarn, and woven or tufted carpeting. The method that is used depends on the processing equipment available and the type of carpet to be made. Piece dyeing is the most desirable way of dyeing nylon from an economic standpoint.

Capracyl dyes are recommended for dyeing nylon carpets because of their good fastness to light and wet cleaning. These properties remain practically unchanged during the life of the carpet. These dyes transfer fairly well and dye levelly at the boil.

Capracyl leveling salt is recommended for use with these dyes to assist penetration and leveling. To assure the best light fastness, shades should be developed from the following dyes:

Capracyl Yellow GW	Capracyl Orange R
Capracyl Yellow 3RD	Celanthrene Fast Blue GSS
Capracyl Red B	Anthraquinone Green GNN
Capracyl Violet BD	
Capracyl Brown RD	

TO ASSURE good dye penetration, the carpet should be scoured to remove finishes or dirt. A formula for general use is:

1% Capracyl leveling salt
Temperature: 180 F
Time: 30 minutes
Use a running rinse until the bath is cooled to 90 F to 100 F

If a very light shade is desired, it may be necessary to bleach the carpet backing since some grades of jute stain nylon during dyeing. One bleaching formula which has been successful is:

10 gms/liter Albone 35 hydrogen peroxide
10 gms/liter sodium silicate
Temperature: 180 F
Time: 20 minutes
Rinse well before dyeing

DYEING.

1. Add to the bath:

2% Capracyl leveling salt
2% Duponol D Paste surface active agent
0.5% ammonium hydroxide

2. Enter the carpet into the bath.

3. Raise the bath temperature *slowly* to the boil. Increase the temperature from 100 F to 160 F over a period of 40 minutes. Below 160 F there is very little color transfer, and the dye must be allowed to exhaust slowly to assure levelness. Above 160 F color transfer and leveling are much more effective and the dyebath can be raised to the boil more rapidly.

4. Continue the dyeing at the boil just long enough to match the shade.

5. Exhaust the dyebath by carefully adding small amounts of acetic acid across the full width of the machine.

6. Sample, rinse, and dry the material.

To avoid shading in piece dyeing wide tufted carpets, it is important that all parts of the carpet be exposed to dye liquor of equal concentration and temperature. Good circulation of the dye liquor is important. In some cases, an auxiliary system to pump the dye liquor from the ends of the beck (where the dye concentration is high) to the center of the beck is helpful.

Dyeing the carpet prior to applying latex to the backing will also help by allowing the dye to circulate through the carpet as well as around the edges.

Another important factor is temperature. Enclosed dye becks allow better temperature control because the carpet does not cool as much when it is out of the dye liquor. Releasing steam into the enclosure will aid in temperature control and also permit viewing the operation through the glass window in the cover.

Abstracted from Nylon Bulletin N-78, Textile Fibers Department, E. I. du Pont de Nemours & Co., Inc.

Fewer seconds are made since installation of a

Unified cloth control system at Buck Creek

by Gus Guggenheim
Laboratory Supervisor
Buck Creek Cotton Mills
Siluria, Alabama
Exclusive

TREMENDOUS improvement in reduction of total yards of seconds has been noted at the Buck Creek Cotton Mills, Siluria, Alabama, since the institution of a unified cloth control system in September of 1955. This control system channels the efforts of many individuals into one concerted movement in the direction of reducing the number of yards of cloth to be regraded or classed as second quality.

Background. To understand Buck Creek's system it is first necessary to know the nature of the goods produced in this mill. For years, Buck Creek Cotton Mills have been widely known as a producer of soft-filled sheetings and napped flannels. This is still true, in the main; however, some drills and twills are being made at the present time.

In view of these facts, it should be clearly seen why at Buck Creek the spinning frames and looms are simply vehicles to be used in getting on the napper a piece of cloth which will retain a certain tensile strength while being napped to the customer's specified gauge, and which will have the proper hand.

The unified cloth control system was devised to compensate for the fact that, even though these soft filled sheetings and flannels are perhaps not the best running goods to be found in the industry (since filling twist multiples of less than 3.00 are common), they must still be run with a low percentage of imperfections. Since the system was installed in the latter part of September 1955 the number of yards of daily seconds has never approached the yards of daily seconds for August and September.

Daily Seconds Report. The total yards per day of seconds is kept on a Daily Seconds Report. By adding the daily yards for a period of one month and dividing by the number of working days for this period, the average daily yards is found.

July 1955 was arbitrarily selected as the base month. The average daily yards of seconds made during July was labeled 100% and thereby was "base." Now, by comparing the average daily yards of seconds made during preceding and subsequent months an extremely clear picture may be seen of the progress made in reduction of seconds.

The accompanying graph shows the picture of Buck Creek's progress for the past 10 months. June is 144% of base; July is 100%, being the base month. August is 141% of base; September is 147% of base. October is 101%, November is 103%, and December is 107% of base.

The last quarter of 1955 was a big improvement over the third quarter. However, the unified cloth control system really began to pay off in 1956. The first quarter of 1956 is as follows: January—82%, February—68%, and March 62% of base. One must clearly understand that base is neither good nor bad, high nor low. Base is simply base—a gauge or measure with which other figures may be compared.

System Is Tried and True. There are few innovations in the activities contained in the cloth control system in use at Buck Creek. But full use is made of many of the good old reliable methods which have been in use for years. These procedures are welded into an effective control which is based on the premise that "the cost of good quality is eternal and unrelenting vigilance."

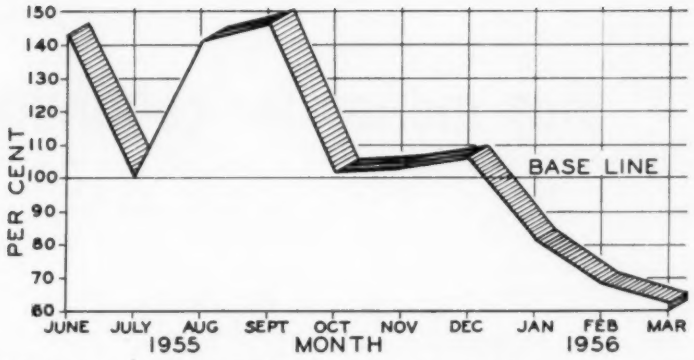
The first step in the system involves the marking of the cloth by the loom fixer at the beginning of each shift. The loom fixer is a key man in the weave room, and his cooperation is essential to the system's effectiveness. The loom fixer marks the cloth on each loom in his section in a manner which makes known the direction of the cloth made on his shift. Also, the direction of the cloth made on the preceding shift is readily identifiable.

The first shift fixer marks the $\frac{3}{1}$ cloth in the following manner:— This mark indicates the first shift cloth is below the mark and the third shift cloth is above the mark. The second shift mark is similar in construction, and looks like this: $\frac{1}{2}$. The third shift mark is $\frac{2}{3}$. Thus the cloth made on each shift is well defined and unmistakable.

When marking the cloth, the fixer checks for jerked-in filling, shuttles bouncing, and similar defects.

An inspection is made of the cloth on each loom once during the shift by a smash-man. The smash-man inspects for several things, among them being jerked-in filling, misdraws, thin places, and bad selvages. Of course, anything which may make the cloth second quality is either fixed or flagged by the smash-man.

As each loom is inspected by the smash-man, he marks the face of the cloth. This mark is necessary to insure the inspection of each loom on every shift and emphasize the importance of the inspection to the smash-man. Since the mark consists of the loom number and the shift number, a further identification is obtained. As an



Reduction in seconds at Buck Creek Cotton Mills after a unified cloth control system was inaugurated in September, 1955. The month of July, 1955, was arbitrarily chosen as the base month, or 100 per cent; seconds for the other months are stated as a percentage of the base month.

example, the second shift smashman would mark loom number 447 as follows: $\frac{447}{2}$. This indication of loom number and shift may be useful if the number on the ends of the cloth is torn off or if the roll of cloth is cut once or several times before the cloth is shown up at the bad work meeting (to be described).

The weavers on each shift are patrolling their alleys in a constant search for defective cloth or looms. Probably this is the most important single function in the entire system, since it goes on constantly.

As the cloth doffer makes his rounds doffing the rolls of cloth from the looms, he makes an inspection. The cloth doffer looks principally for the rather obvious signs of jerked-in filling and oily selvages.

Inspecting and Grading. When the looms are doffed, the cloth is sent to the cloth room for inspection and grading. When a roll of cloth is found to contain defects, a seconds ticket is made out, noting the loom number, number of yards, and the defect. This ticket is taken directly to the weave room.

The seconds tickets are distributed to the various loom fixers by the shift supervisor. When the loom fixer has located and fixed the trouble, he notes on the ticket what was found and what action was taken. The seconds ticket is then returned to the supervisor.

The supervisor may re-check the loom, or a percentage of the looms, and the ticket is then filed. This file is useful in spotting looms which repeat rolls of second quality cloth. The cloth room saves these rolls of defective cloth for a 24-hour period.

Daily "Show-Up." At an appointed time every morning, the mill's supervisory staff meets in the cloth room and goes through all the defective cloth. The superintendent, all overseers, and the quality control supervisor are in attendance. As the cloth is shown up, the quality control supervisor notes the style, yards, and defect.

The overseers are gentlemen enough to want to claim their own defective work. There is no attempt to push off the blame for defects to another department.

Examples are taken back to the carding and spinning departments of defects such as oily filling, card room oil, bad bunches, sloughed-off filling, etc. The weave room overseer takes back to his department any rolls of cloth which he deems should be shown to people in his department. Since the cloth is so well marked, little difficulty is encountered in finding the person or persons responsible for the defects.

The quality control supervisor compiles from the list he made at the meeting a comprehensive report of defective rolls of cloth. The report contains the style, yards, loom, and defect for each roll of cloth. In addition, this information is recapitulated to point out the per cent of total of each style and the per cent of total of each defect.

The seconds report is issued every day to all overseers and to the mill's superintendent. In addition to this distribution the quality control department keeps a running record of all the looms in the mill and of every roll of defective cloth shown at the bad work meeting. The date the defective cloth was made, the defect, the number of yards, and the style of the cloth are listed in columns headed by the loom's number.

At approximately three-month intervals the loom book is turned over to the weave room overseer. The weave room overseer uses the loom book in conjunction with his loom maintenance program. It is a great aid to the overseer if he knows just which looms in his department are making the most second quality cloth. And Buck Creek's experience, again, proves the old belief that a small number of the looms in operation makes the majority of the defective work.

Close cooperation between all parties is an absolute necessity to make the unified cloth control system workable and effective. The supervisor must be man enough to admit his own defects and determine better ways and means so that the defects may be eliminated. The operative producing the yarn or roving or cloth must be impressed with the importance of his particular job and the necessity of doing the type of work in which he may take pride.

Buck Creek feels that these conditions are met. And the graph of Buck Creek's progress with regard to seconds tends to support this belief.

Stop motion for continuous wet processes

Tension-actuated stop motion prevents thread-outs and lap-outs

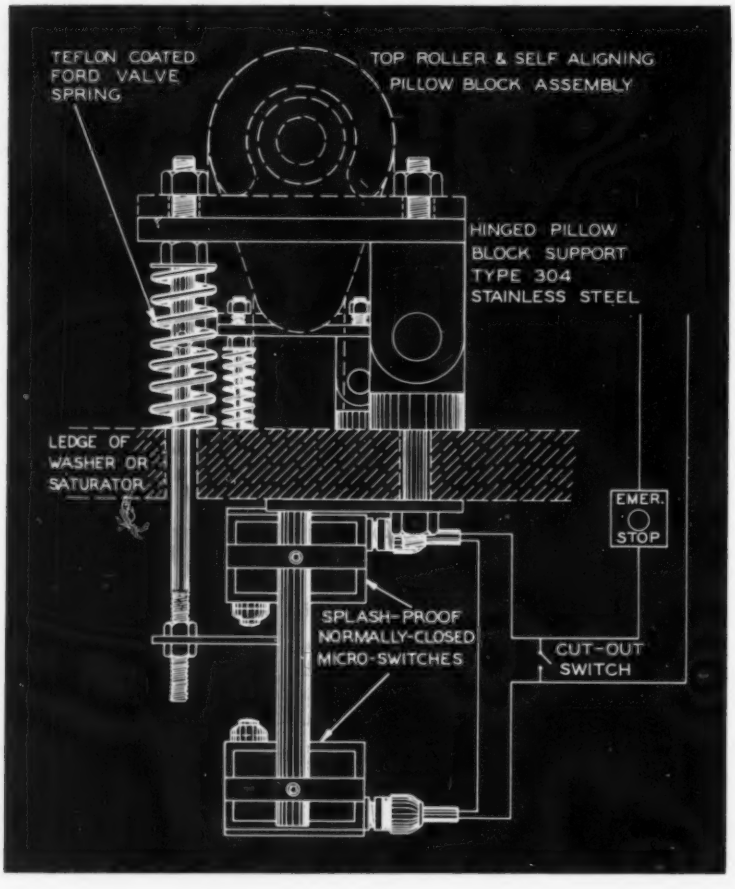
by William C. Sandlin, Jr.
Russell Manufacturing Co.
Alexander City, Ala.
Exclusive

THE CLOTH TENSION stop-motion illustrated here was developed by the Russell Manufacturing Co., Alexander City, Ala. It evolved from the necessity for some sort of automatic device to prevent time consuming "thread-outs" and roller bending "lap-ups" in continuous process bleaching and dyeing machinery.

Since most of these costly malfunctions occur in open width washers and saturators, where the cloth is under considerable tension, the stop-motions were designed to operate at these trouble spots, utilizing extremes in tension as the basis for actuation.

A stop-motion is mounted on one of the top idler rollers located between successive squeeze rollers on a washer or saturator box. Cloth tension between the squeeze rollers causes the top roller to swing down on its hinge points, compressing the springs and positioning the actuating arm between the micro switches.

Sufficient relief of this cloth tension, such as occurs in a cloth break-out, allows the springs to return to their original positions and brings the actuating arm up against the top micro switch, which is a normally closed switch in series with the emergency stop holding relay. Actuation of this switch causes the relay to drop out and stops the machine quickly through dynamic braking.


TEFLON COATED FORD VALVE SPRING
TOP ROLLER & SELF ALIGNING PILLOW BLOCK ASSEMBLY
HINGED PILLOW BLOCK SUPPORT TYPE 304 STAINLESS STEEL
LEDGE OF WASHER OR SATURATOR
EMER. STOP
SPLASH-PROOF NORMALLY-CLOSED MICRO-SWITCHES
CUT-OUT SWITCH

EXCESSIVE CLOTH TENSION, such as occurs in a "lap-out" or a tangle, causes full compression of the springs and actuates the bottom micro switch, which, in a similar manner, stops the machine before roller bending tensions are developed.

The units are fabricated of Type 304 stainless steel, and are constructed so that no alteration of the washer or saturator box is necessary for their installation. The top roller pillow blocks are simply removed and placed on top of the hinged pillow block supports, which are secured to the box using the bolt holes drilled for the pillow block assemblies.

MICRO SWITCHES are installed on only one of the two devices which compose a roller set. These switches are mounted on vertically adjustable stainless steel blocks, which are positioned on the hanging support rod to give the desired cloth tension actuations. Switches used are standard sealed units, manufactured by the Micro Switch Division of the Minneapolis-Honeywell Regulator Co.

A wall-mounted cut-out switch is installed in parallel with the micro switches so that the stop-motion circuits can be isolated

from the emergency stop holding relay for machinery start-ups. It is necessary to use this switch only when all cloth tension has been released, for such action operates the top micro switch on each unit and prevents machinery starting until these switches are either manually closed or isolated from the machinery drive circuits.

Standard Ford automobile valve springs proved to have the most desirable compressive features of the several varieties tried. These springs were Teflon-coated in order to afford them protection from the splash of corrosive liquids. Coating work was done by the Electric Furnace Corp., Chattanooga, Tenn.

FREEDOM OF MOVEMENT of the actuating rod through the old pillow block bolt hole was accomplished by inserting a pivot point in the rod in the same horizontal plane as that of the pillow block support hinge joint, and reducing the bottom portion of the rod from a ½-inch to a ⅜-inch diameter. The connecting pin was then hammered down to give a pivot action stiff enough to prevent swinging of the actuating arm upon contact with the top micro switch, and yet loose enough to allow the necessary pivot action for complete spring compression.

Although no attempt has been made to calibrate cloth tension with spring compression, machinery operators visually utilize the relative position of the actuating arm between the micro switches to set and maintain desired cloth tensions.

Several months of successful operation have proved these stop-motions to be highly effective cost savers, and every effort is being made by this company to utilize these and similar devices for the control of cloth tension and the prevention of breakouts.

This system cut battery filling costs at Spartan Mills

● SPARTAN MILLS' Beaumont Division, Spartanburg, S. C., is using a battery filling system which is expected to reduce battery filling costs by 30 to 40 per cent.

The system is built around a galvanized metal box which holds a supply of filling yarn. The bobbins of yarn lie crosswise in the box, which is placed on the loom above the battery. The stands for the boxes are designed to fit the type of loom on which they are to be used.

The filling box has a dispensing spout and a stainless steel bottom liner, which protrudes into the spout and which is about two inches above the bottom of the spout.

A cut-out in the front of the steel liner permits the battery filler to insert his thumb under a quill and pick it up. The battery filler stands erect and does not have to bend or twist.

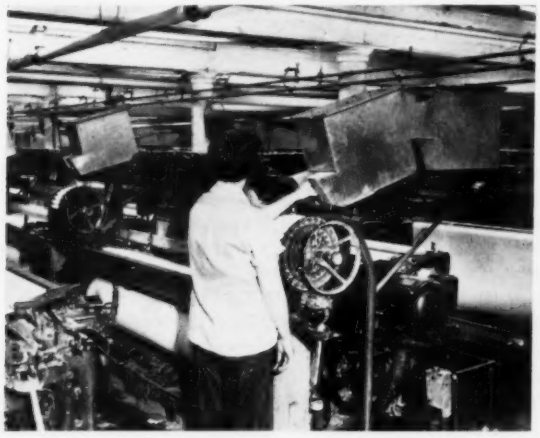
THE BOXES are filled by the doffer, who doffs directly into one of the boxes, placing the bobbins crosswise in the box. Doffers soon become accustomed to placing the bobbins in the boxes, rather than dropping or tossing them.

Each box is designed to hold half a doff; when the top box on the specially designed cart (see accompanying illustration) is full, the position of the two boxes on the truck is reversed.

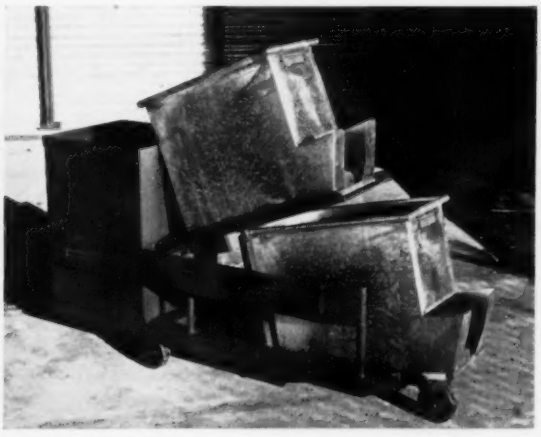
The truck is designed to hold the top box in a backward-slanting position, to prevent the bobbins from flowing into the spout and to make it easier for the doffer to place the bobbins crosswise in the box.

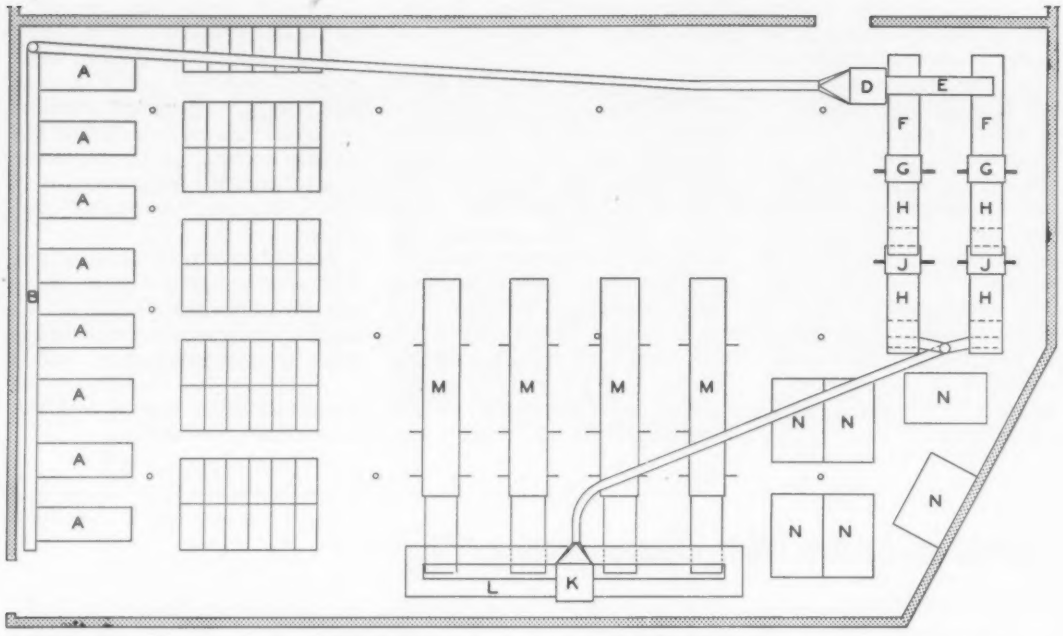
The filling box and doff trucks were designed and are manufactured by Bennett Rose Co., Roebuck, S. C.

Filling box is placed on a special rack above the loom; dispensing spout is directly above the battery. A cut-out in the bottom stainless steel liner of the box permits quills to be easily removed by the battery filler.



Boxes are placed on special truck for filling by the doffer. Bobbins are placed crosswise, rather than thrown or dropped into box. Box at rear of truck holds empty quills, has spring bottom to keep quill level at convenient reach.





A. Blending feeder
B. Feed table
D. Condenser
E. Distributor (Gyrator)
F. Mixing feeder
G. Opener (Aldrich No. 4)
H. Super Jet Cleaner
J. Opener (Aldrich No. 5)
K. Condenser
L. Duplex Gyrator
M. Picker (single process)
N. Filter

Opening-picking with quality, quantity, economy

Staff prepared Exclusive

MANAGEMENT, conducting a modernization program in the Central plant of Avondale Mills, Sylacauga, Ala., replaced the opening room machinery in that plant with equipment capable of doing a better opening job at a lower cost. The equipment selection was made after tests disclosed the combination of machinery which best answered their demands.

The products of more than one manufacturer were used in arriving at an opening line combination which is unusual in its quantity and arrangement.

ONE-ROOM LAYOUT. All opening and picking processes are contained in one room, the atmosphere of which is kept dust-free by a battery of panel-type filters. The relative humidity is maintained at an even 55%.

One operator feeds the seven blending feeders and doffs the four pickers. Equipment used in order of stock flow:

Seven blending feeders
One conveyor
Trunk line
Condenser
One rake distributor

Here stock is divided into two lines of opening equipment, each consisting of:

One steel blending feeder
One No. 5 beater section
One Super-Jet cleaner
One No. 4 beater section
One Super-Jet cleaner

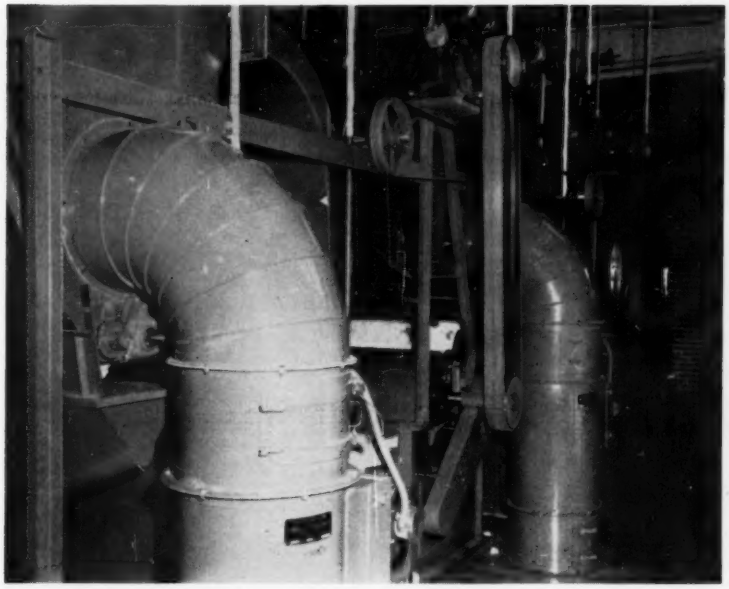
The two lines feed into a collector which is emptied by a trunk line to the single condenser which feeds a Duplex Gyrator. The Gyrator delivers stock to the four picker hoppers.

The present equipment does an excellent job of opening and blending the stock and delivers it to the pickers in condition to make a uniform lap. No noticeable damage such as rat-tailing or neppiness is traceable to the opening process.

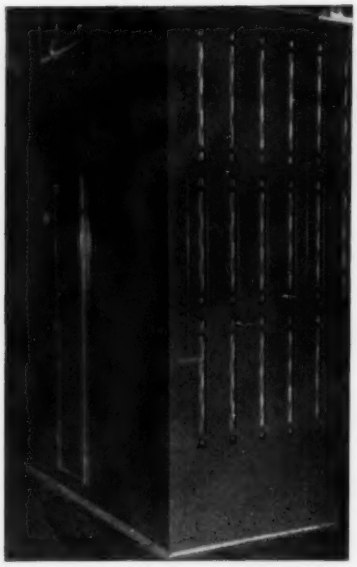
As the stock leaves the blending feeders it is subjected to four beating actions before it is finally rolled into a lap. Never is it free from screening, or being dragged across grid bars, except in the short trunk line from the blending feeders to the first condenser, or in other short passages between processes.

FAN EXHAUST from the pickers is filtered through two panel-type filtering units (two pickers per filter) which utilize fiber glass panels covered with cheese cloth as filtering elements.

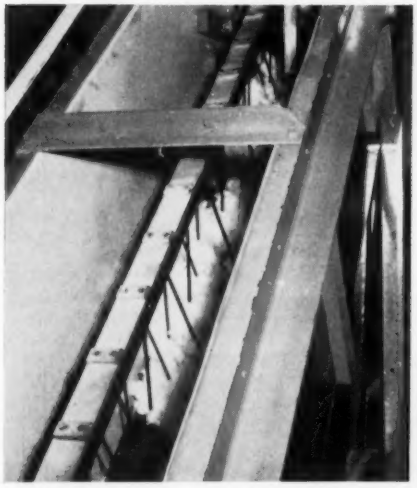
The Super-Jet cleaners exhaust

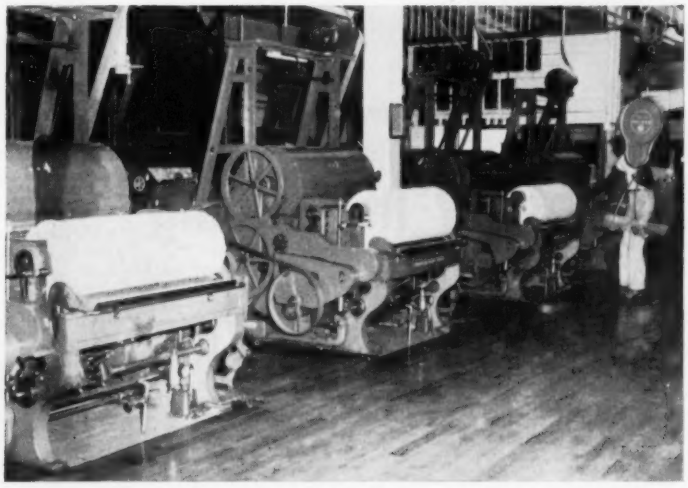


One of the two lines of beaters and Super-Jet cleaners. Stock from the blending feeders is fed by a Gyrator to the two lines.



One of the panel-type filters which keep the atmosphere clean and make possible uniform relative humidity.





Whenever possible the cotton stock is subjected to opening, cleaning, and blooming operations. A condenser receives the stock from the two lines of beaters and Super Jets and deposits it in the Duplex Gyrator. This unit consists of two inclined Gyrators which further open and clean the stock as it lifts it to the distributing position above the four pickers.

into another pair of filtering units (one filter for each line of opening after the blending reserve line); the dust from the blending hoppers, and the condenser exhausts are channeled through the other filters.

The thin fiber glass filter, with its cheese cloth cover, is vacuum cleaned each eight hours. The cloth is replaced as it begins to tatter; the fiber glass requires no routine changing.

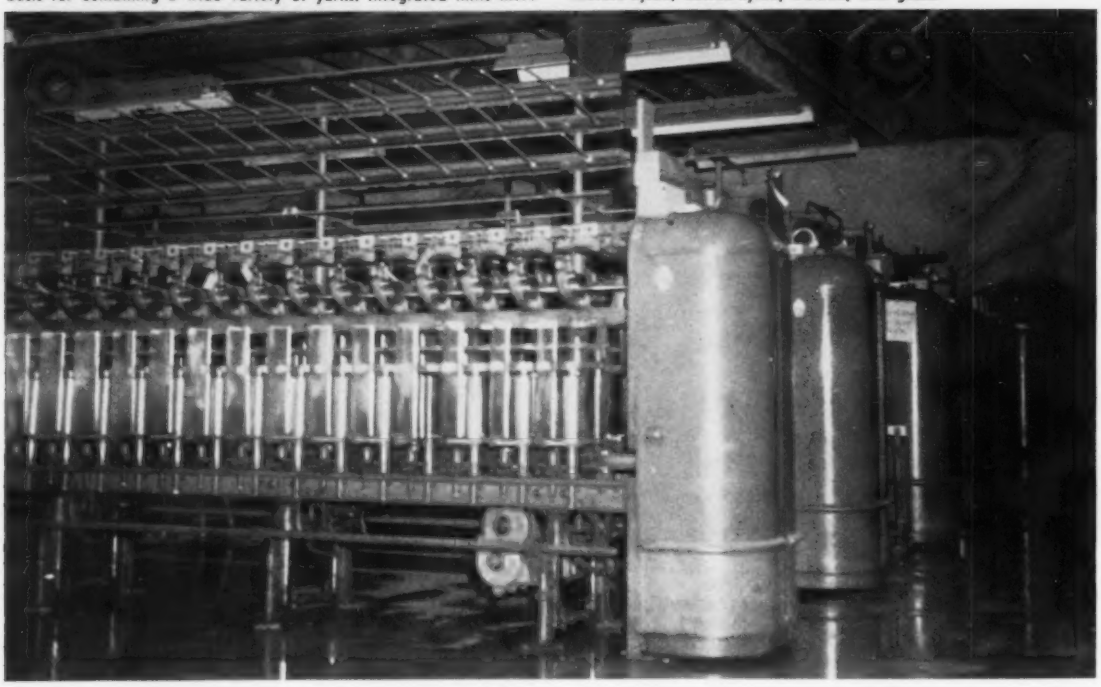
The air exchange between the filters and the beater sections is so uniform that no further air is "borrowed" from adjoining areas. Lap uniformity is not influenced by any back-pressure in the beater sections.

Laps are of SM cotton of 1 1/16" staple, weigh 49 lbs without the pin, and are 55 yards long. Lap running time on pickers: 8 minutes. The cards produce seven pounds per hour on combed stock, and eight pounds per hour on carded stock. The drawing delivers 55-grain sliver from 54-grain card sliver.

Both carded and combed stocks are spun from 2.50-hank roving on 10" x 4½" packages. Both carded and combed yarns are produced in 26s to 30s.

The four two-beater pickers, recently rebuilt, are equipped with pneumatic lap racks and Aldrich synchronizers.

There are eight machines in the new 10B complement, which is the basis for combining a wide variety of yarns. Integrated mills more often have units this size than do throwsters. Fibers twisted include acetate-nylon, cotton-nylon, Dacron, and glass.

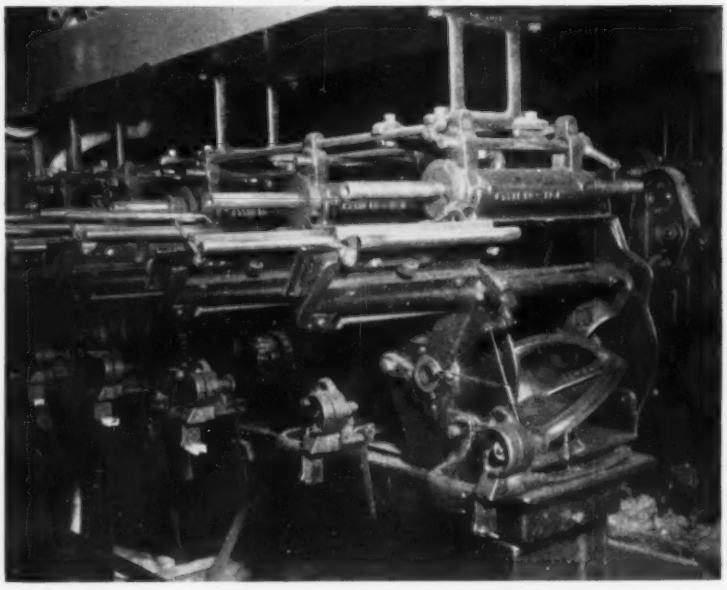


A modern throwing plant has chosen equipment to give

Versatility in winding

Staff prepared
Exclusive

Basic packaging unit is the stripped-down No. 50 winder. Fixtures include various holders, stroke cams ranging from two to six inches, and builder cams from No. 1 to No. 40; these are fitted to the basic units to do a particular winding job.

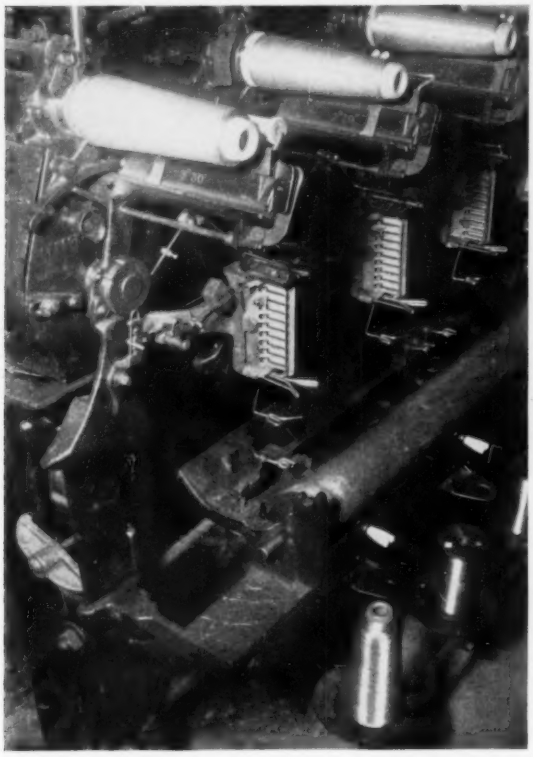


TO KEEP UP with current trends in throwing, which are away from single end twisting and toward plies, The Tannenbaum Co., a new commission specialty throwster in Eddington, Pa., has equipped its plant for 10B downtwisting.

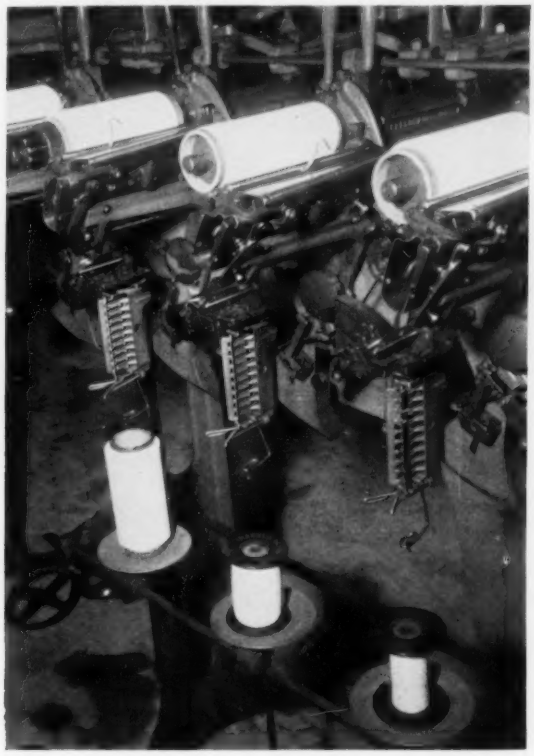
To service wide finished package requirements for this work, the mill is being equipped with a large (700-spindle) complement of No. 50 Universal winders with a supply of holders, cams, and frame backs available to put up tube, king spool, and cone packages of various sizes.

The accompanying photos illustrate this mill's approach.

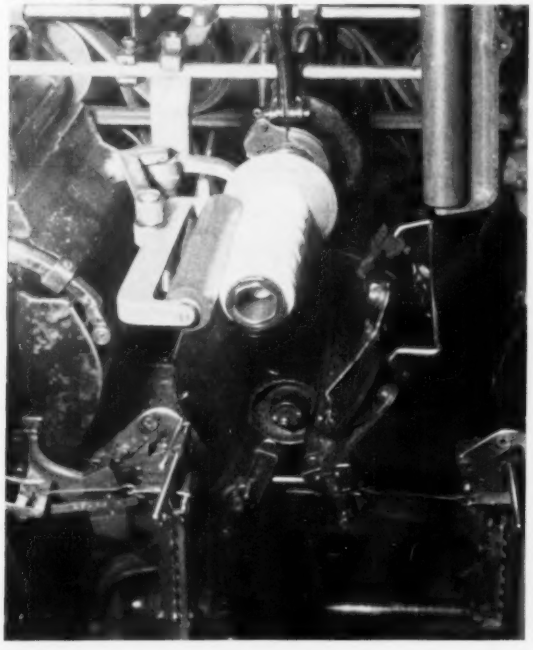
Coning usually requires a 3-degree 30-minute frame back. Builder cams are kept for making either straight or pineapple-top cones.

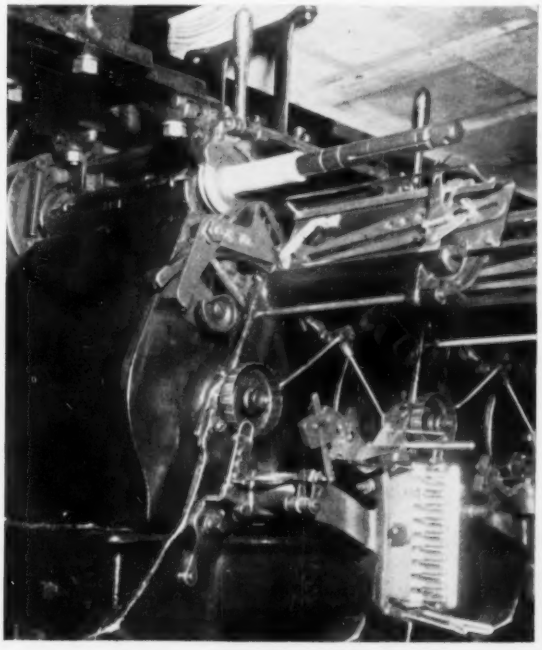


Parallel tube set-up can vary in diameter from 3/8" to 1 5/8". This unit is set to wind Dyetex tubes.



King spool set-up requires special attachment, is usually set for 3-degree 30-minute taper with a stroke variation to make either a 1/4-, 1/2-, or 1-lb package. This put-up is generally used for sewing thread. Light tube set-up is usually fitted for a 6" stroke; these packages are used for twines and fish lines. A shorter tube (right) is required for the braiding or wire trades. Parallel tubes can also be wound with a taper, effected by adjustment of the builder cam and taper bars.





Cutting is the key to successful velvet weaving

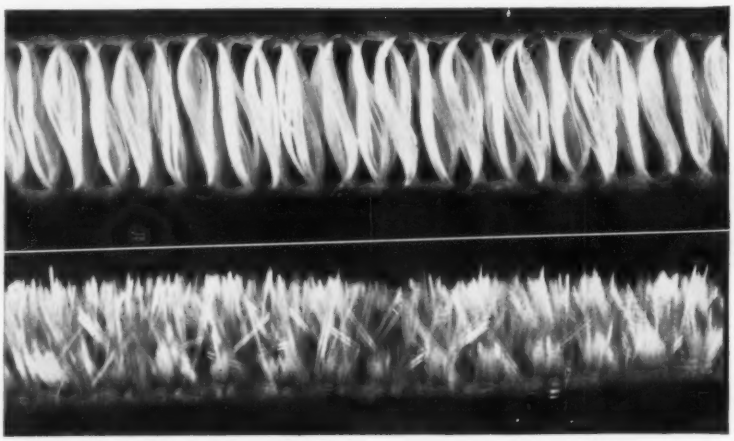
How today's quality and production requirements are met at Vanetta

Staff prepared
Exclusive

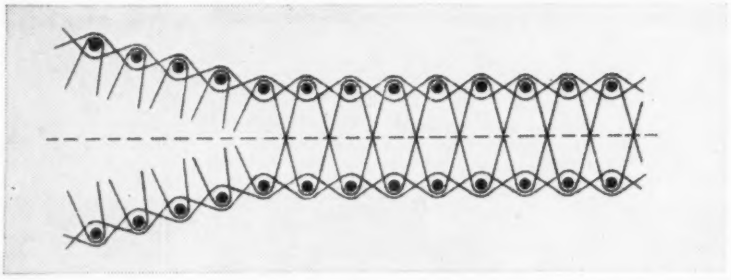
IN WEAVING velvets face to face, a set of motions not generally met in flat weaving is characteristic: Two fabrics weave at the same time, with a common warp; shuttles in each fabric move at the rate of about 110 picks per minute each, for a combined effect on the loom of 220. Adding to this some kind of pile cutting mechanism to separate the two on the loom results in precise loom requirements.

Strangely, most looms in place which are designed to weave velvet are about 20 to 50 years old. One notable exception—a new installation planned to meet the quality and production requirements of today's markets—was completed recently in the Lowell, Mass., plant of Vanetta Velvet Manufacturing Corp. The mill, a separate unit from Vanetta's corduroy operation, is built around a complement of Gusken looms.

The photo series [pp. 94-96] illustrates the highlights of the manufacturing unit.

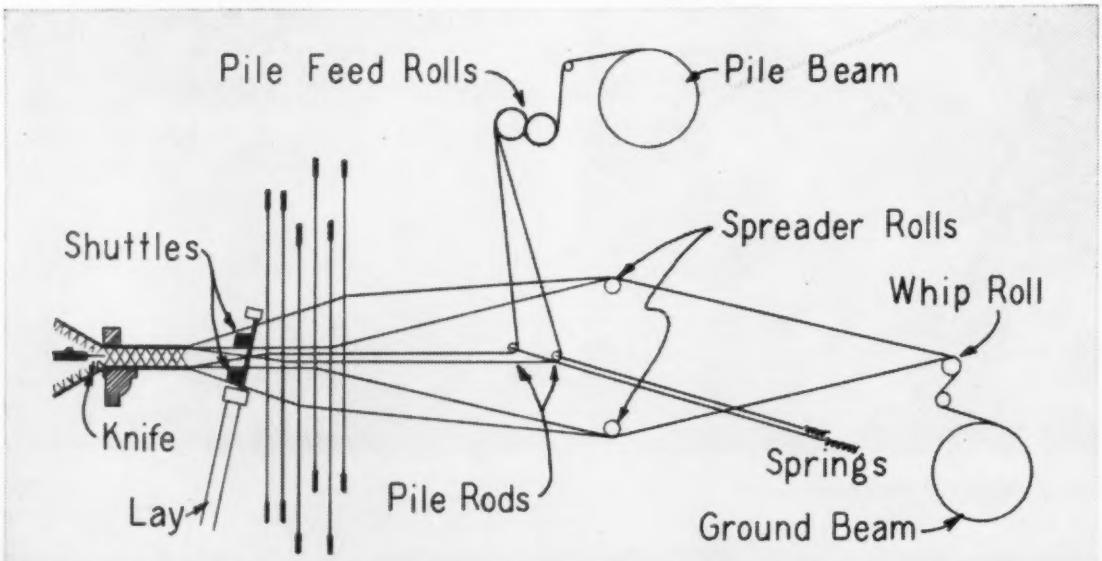


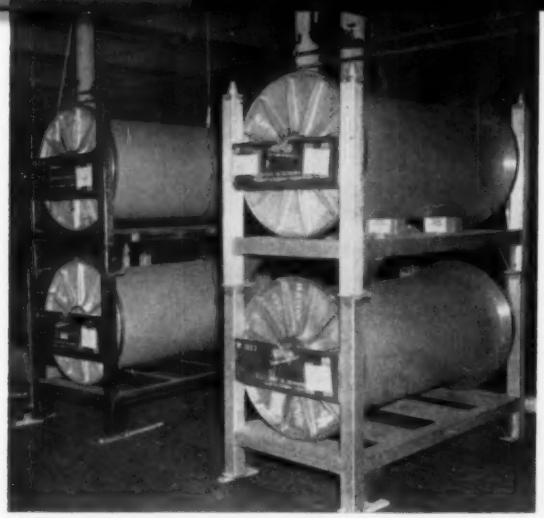
Photomicrographs of velvet fabric cross sections: above, before cutting; below, one of the fabrics after cutting and before shearing.



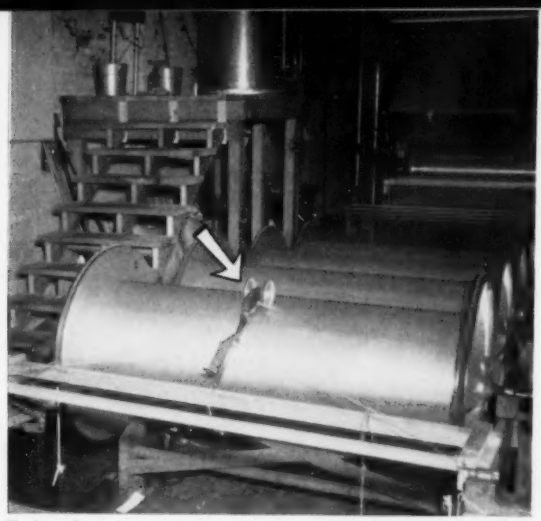
A commonly used velvet construction with a "V" pile. Broken line indicates cutting point.

Side view of a velvet loom (not to scale).

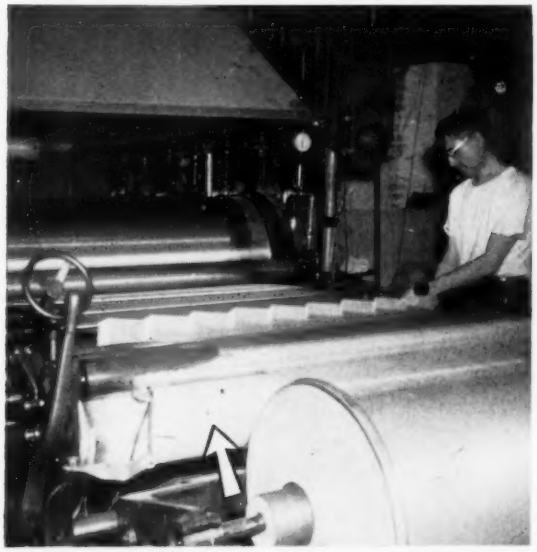




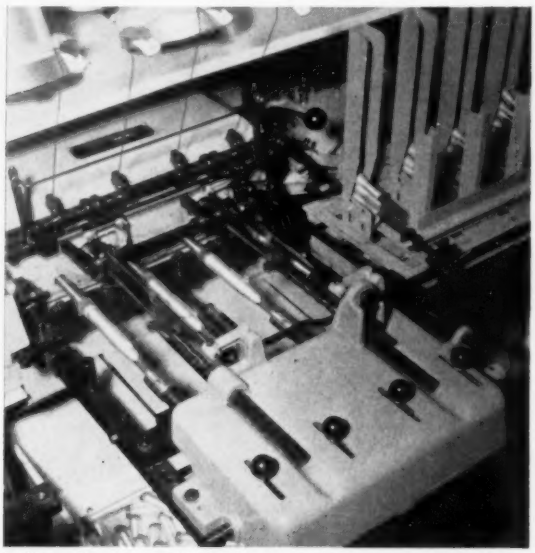
Warp yarn arrives on these section beams. Most velvets made today are woven from man-made fibers; a standard transparent chiffon velvet, for example, is constructed of 65-denier, 28-turn Bemberg in ground warp and filling, and 125- or 150-denier viscose pile, 80 x 96 ground construction, in "W" pile weave.



Slashing for velvet weaving is done on a Johnson seven-can machine. All warps are slashed (both ground and pile), and are made directly in slashing from section beams. Note yardage meter (arrow), which keeps a running check on the creeled yardage pull-off from the section beams.



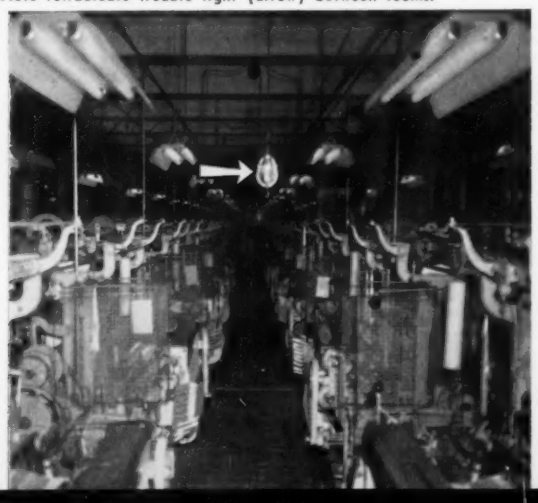
Beam presser roll in the slasher head section is covered with sheeting (arrow) to prevent slip-backs when slasher is stopped.



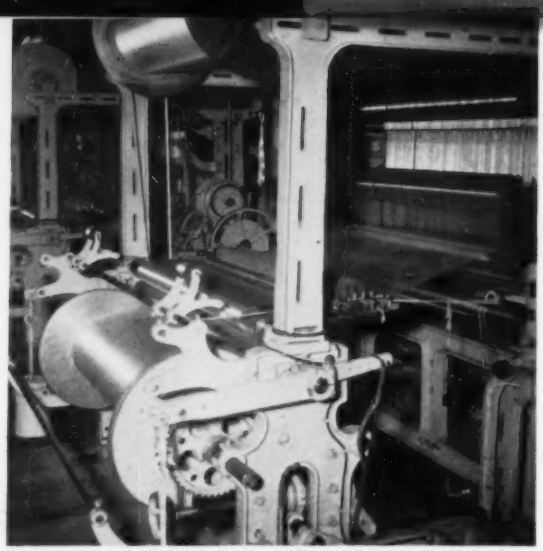
Quilling for the double-fabric weaving job is done on Foster-Muschamp machines because a pair of quills is made from one head.

Use of matched pair of quills, weaving simultaneously in upper and lower sheds, effects a substantial reduction in waste. Tension levels in quilling are checked periodically, as done here by Paul Greenwood, superintendent of the Lowell velvet plant.

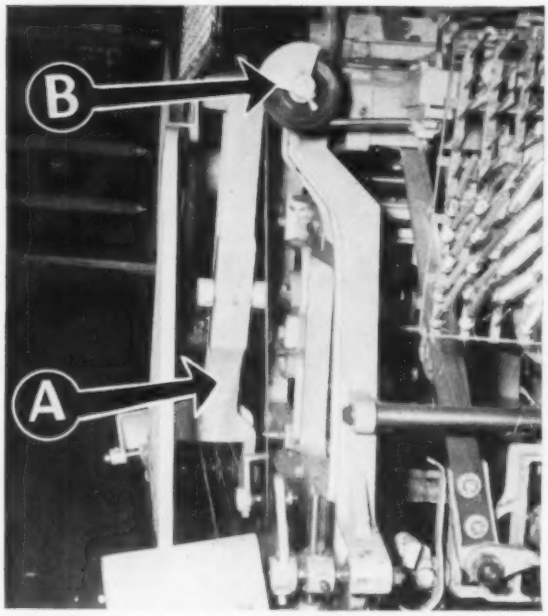
Looms in the Vanetta plant are laid out for maintenance and operating convenience. Reaching over breast beam and down into warp is made more convenient by raised walkway between looms. Note retractable trouble light (arrow) between looms.



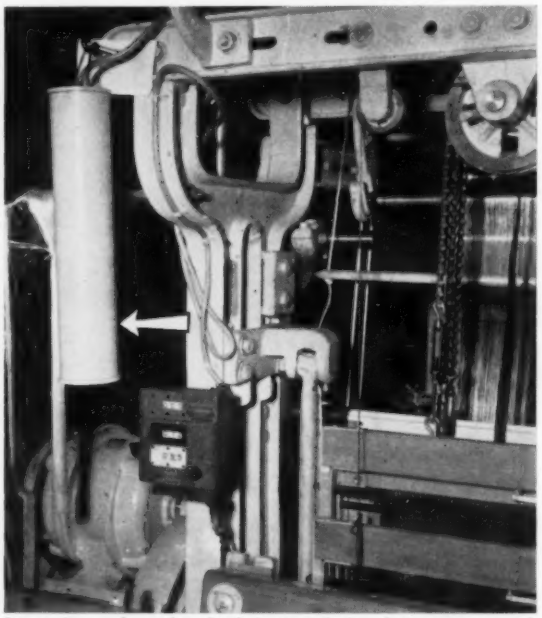
This loom was built to fit several of Vanetta's own specifications. Photo shows front end of loom. Most machines are cam-operated; they require more routine maintenance than flat goods looms because of added mechanisms needed for double-fabric weaving.



Placement of pile (top) and ground (bottom) beams is shown here. A full ground beam will weave for three months, a pile beam for six weeks. Seconds are serious business in velvet weaving because of the relatively high cost of the goods.



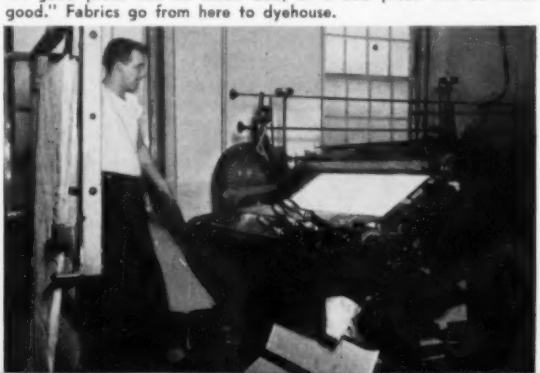
Innovations on the looms include a pendulum cutting motion (arrow A). The pendulum imparts a smooth reciprocal motion to the blade through cord guides (arrow B), eliminating "chippiness" in cutting caused by irregular, jerky knife starts.



Stop indicator (arrow) is divided into eight lengthwise sections, each of which is marked by the stop cause wired to the individual loom stop sites. The weaver does not need to search for the cause of a loom stop before restarting the loom.

Inspection is critical and serves two functions: to grade for dye shade and suitability of the goods for one or more of the several end uses to which velvets are directed; and to inspect for "highs" and "lows" in pile height, and issue shearing instructions accordingly. Simply constructed frame permits inspection of both sides of the fabric in one threading.

Shear can cut pile to within 0.001 inch. The average run through the three-blade machine crops off about 0.007 inch. Close visual control is important to prevent shear streaks; a pile gauge is used at the delivery end of the machine to check pile height. In this operation, "A good piece can be made bad, or a bad piece can be made good." Fabrics go from here to dyehouse.



Determine your own constant if necessary, then use this formula for

Predicting fabric strength

by Ernest G. Freudenthal
Exclusive

IT IS CUSTOMARY for cotton mills to establish minimum tolerances for the tensile strength of the fabrics they produce. In many instances such standards are absolutely necessary, depending on the ultimate use for which the fabrics are destined.

In such instances the minimum tensile strength requirements are frequently formulated by the customer. Occasionally the standards are established by a trade association or by a government specification, and are accepted as guide posts for cloth tensile strength requirements.

Standards usually specify the average or minimum breaking strength which a fabric of a given weight (yards per pound) or a given thread count per inch shall have. If only the weight is stated, the mill is free to experiment, using various constructions and yarn counts, until the correct weight and tensile strength are achieved. If the thread count is specified, a manipulation of the warp and filling yarn counts can result in the attainment of the desired tensile strength in each direction.

EXPERIMENTS are costly in terms of time lost, as well as in materials and man-hours used. If a sample does not meet requirements, additional samples may have to be prepared. At the same time, each mill is limited by the fact that for reasons of economy it must try to work within the framework of its existing mill balance.

From a production point of view it is desirable to use the yarn counts which the mill is already set up to produce. Moreover, the use of certain yarn counts may upset the balance between spindle and loom capacity.

All these factors complicate the task in selecting the proper yarn counts and/or threads per inch in each direction to achieve a desired tensile strength. It is therefore useful to have a chart or table which will predict tensile strength for given yarn counts plotted against sley and picks per inch. Conversely, such a table can be used to indicate which counts and what construction to use to achieve

PREDICTED FABRIC TENSILE STRENGTH IN THE FILLING DIRECTION

Picks Per Inch	Filling Yarn Count																		
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
80								100	90	82	75	69	64	60	56	53	50	47	45	43
78							109	98	88	80	73	67	62	59	55	52	49	46	44	42
76							106	95	86	78	71	66	61	57	53	50	48	45	43	41
74							104	93	83	76	69	64	59	56	52	49	46	43	42	40
72							101	90	81	74	68	62	58	54	50	48	45	42	41	39
70						112	98	88	79	72	66	60	56	53	49	46	44	41	39	38
68						109	96	85	77	70	64	59	54	51	48	45	43	40	38	37
66						106	93	83	74	68	62	57	53	50	46	44	41	39	37	35
64						102	90	80	72	66	60	55	51	48	45	42	40	38	36	34
62					116	99	87	78	70	64	58	53	50	47	43	41	39	36	35	33
60					112	96	84	75	68	62	56	52	48	45	42	40	38	35	34	32
58					108	93	82	73	65	59	54	50	46	44	41	38	36	34	33	31
56					105	90	79	70	63	57	53	48	45	42	39	37	35	33	32	30
54					101	87	76	68	61	55	51	47	43	41	38	36	34	32	30	29
52				117	97	84	73	65	59	53	49	45	42	39	36	34	33	31	29	28
50				113	94	80	70	63	56	51	47	43	40	38	35	33	31	29	28	27
48				108	90	77	68	60	54	49	45	41	38	36	34	32	30	28	27	26
46				104	86	74	65	58	52	47	43	40	37	35	32	30	29	27	26	25
44			124	99	83	71	62	55	50	45	41	38	35	33	31	29	28	26	25	24
42			118	95	79	67	59	53	47	43	39	36	34	32	29	28	26	25	24	23
40			112	90	75	64	56	50	45	41	38	35	32	30	28	27	25	24	23	22
38			107	86	71	61	53	48	43	39	36	33	30	29	27	25	24	22	21	
36			101	81	68	58	51	45	41	37	34	31	29	27	25	24	23	21		
34		128	96	77	64	55	48	43	38	35	32	29	27	26	24	23	21			
32		120	90	72	60	51	45	40	36	33	30	28	26	24	22	21				
30		113	84	68	56	48	42	38	34	31	28	26	24	23	21					
28		105	79	63	53	45	39	35	32	29	26	24	22	21						
26	146	98	73	59	49	42	37	33	29	27	24	22	21							

PREDICTED FABRIC TENSILE STRENGTH IN THE WARP DIRECTION

Ends Per Inch	Warp Yarn Count																	
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
100								107	98	91	84	79	74	69	65	62	59	
98								105	96	89	82	77	73	68	64	61	58	
96								103	94	87	81	76	71	66	62	60	57	
94								101	92	86	79	74	70	65	61	58	55	
92							109	98	90	84	77	73	68	63	60	57	54	
90							106	96	88	82	76	71	67	62	59	56	53	
88							104	94	86	80	74	70	65	61	57	55	52	
86							101	92	84	78	72	68	64	59	56	53	51	
84						110	99	90	82	76	71	66	62	58	55	52	50	
82						107	97	88	80	75	69	65	61	57	53	51	48	
80						105	94	86	78	73	67	63	59	55	52	50	47	
78						102	92	83	76	71	66	62	58	54	51	48	46	
76						100	90	81	74	69	64	60	56	52	49	47	45	
74					110	97	87	79	73	67	62	58	55	51	48	46	44	
72					107	94	85	77	71	66	60	57	53	50	47	45	42	
70					104	92	83	75	69	64	59	55	52	48	46	43	41	
68					101	89	80	73	67	62	57	54	50	47	44	42	40	
66				112	98	86	78	71	65	60	55	52	49	46	43	41	39	
64				108	95	84	76	68	63	58	54	51	47	44	42	40	38	
62				105	92	81	73	66	61	56	52	49	46	43	40	38	37	
60				101	89	79	71	64	59	55	50	47	44	41	39	37	35	
58			114	98	86	76	68	62	57	53	49	46	43	40	38	36	34	
56			110	95	83	73	66	60	55	51	47	44	41	39	36	35	33	
54			106	91	80	71	64	58	53	49	45	43	40	37	35	33	32	
52			102	88	77	68	61	56	51	47	44	41	38	36	34	32	31	
50		119	99	85	74	66	59	54	49	46	42	40	37	35	33	31	30	
48		114	95	81	71	63	57	51	47	44	40	38	36	33	31	30	28	
46		109	91	78	68	60	54	49	45	42	39	36	34	32	30	29	27	
44		104	87	74	65	58	52	47	43	40	37	35	33	30	29	27	26	
42	124	99	83	71	62	55	50	45	41	38	35	33	31	29	27	26	25	
40	118	95	79	68	59	52	47	43	39	36	34	32	30	28	26	25	24	
38	112	90	75	64	56	50	45	41	37	35	32	30	28	26	25	24	22	
36	107	85	71	61	53	47	42	39	35	33	30	28	27	25	23	22	21	
34	101	81	67	57	50	45	40	36	33	31	29	27	25	23	22	21		
32	126	95	76	63	54	47	42	38	34	31	29	27	25	24	22	21		
30	119	89	71	59	51	44	39	35	32	29	27	25	24	22	21			
28	111	83	66	55	47	41	37	33	30	27	25	24	22	21				
26	103	77	62	51	44	38	34	31	28	25	24	22	21					

a desired tensile strength.

A great deal of scientific work has been done to predict skein breaking strength and break factor of cotton yarns. Such predictions are based on formulas which make use of various physical fiber properties such as fineness, Pressley strength, and staple length. However, no such exhaustive work relating to fabric strength is known to us. Therefore, we have worked out an empirical formula to predict cotton fabric strength.

In deriving the formula, we plotted hundreds of cloth break test results in both fabric directions. Separate charts were made for warp and for filling. All tests were made on a Scott Model J-1 tester according to standard ASTM methods (grab method), and under standard testing conditions (70 F and 65% RH). The purpose of plotting this huge amount of data was to determine if there existed a common relationship between the breaks of various constructions which could be translated into a formula holding true for changing yarn counts and constructions.

TENSILE STRENGTH increases with an increase in the thread count but decreases with an increase in the cotton yarn count. Hence, if such increase or decrease in tensile strength occurs at a constant ratio with a change in thread count and yarn count, the following formula will hold true:

$$\frac{\text{Constant} \times \text{Thread Count}}{\text{Yarn Count}} = \text{Tensile Strength}$$

A study of the available data showed that such a relationship did exist. The constant for warp was found to be 23.75; while the filling constant came to 22.50. The difference between the two constants is obviously due to the difference in twist between filling and warp, and to the additional strength given to the warp by sizing.

Applying these constants to predict the tensile strength of 80 x 80 print cloth, made with 30s warp and 40s filling, we arrive at the following simple calculations:

Fabric strength in the warp direction:

$$\frac{80 \times 23.75}{30} = 63$$

Fabric strength in the filling direction:

$$\frac{80 \times 22.50}{40} = 45$$

After testing these formulas in a large number of instances to determine their reliability, it became an easy matter to complete two tables showing the tensile strength for warp and for filling of a wide range of constructions [see p. 97].

It should be borne in mind that the two constants and the resulting predicted tensile strengths are based on the experience of a single mill, using 1 1/32" Middling cotton, a warp yarn twist factor of 4.75, a filling twist factor of 3.75, and an average fiber fineness of 4.45 micrograms per inch.

Other mills, using different types of stock or different twist multipliers can readily compute their own constants by analyzing their available test data, and then using the method described here.

Nonwoven fabrics—problems and predictions

by D. V. Probasco
Lantuck Division
Wellington Sears Co.

Abstract*

● THE TECHNICAL problems confronting producers of nonwovens are tremendous. A whole line of new products is in the process of being developed. Each application frequently calls for a special product. Along with this, to make matters even more costly and complicated, is the absolute necessity for developing new processes for doing the job.

In other words, a whole new industry is being built and this, of course, is extremely expensive in the form of high development costs to be applied to the new products and processes.

A second problem confronting nonwoven producers is the relatively small market that each is able to exploit at the present time. Of course, sights are set on markets which have great potentials, but a good bit of time and tremendous effort are required to develop markets to the point where they can support the cost of development that has gone into the program.

The selling expense is relatively quite high in nonwoven fabrics as compared to conventional textiles. Therefore, a producer and merchandiser of nonwoven fabrics is confronted with a distorted overhead cost in the present stage of the industry.

The third and far from the least important is the question of customer and consumer education. Each field or market that is explored requires an individual selling and educational campaign. Customers must be taught the merits of nonwoven products. They have to be educated to the fact that nonwovens are not cheap, that they are not paper, and are not comparable to paper in price.

Furthermore, the nonwoven industry is not based on very cheap raw materials. Many have the mistaken idea that nonwoven fabrics can be made from most any waste from conventional textile operations. This is certainly not true for the industry. By far more virgin staple is being used and will continue to be consumed in nonwoven textiles than will waste products. This educational program of course results in relatively high promotion and advertising expenses.

The fourth problem, and a most important one, deals with proper finishing techniques. This field is comparatively wide open with very important and very large strides needed at once.

At the present, the usual finishing may consist of resaturation, and perhaps curing. Dyeing and printing are becoming more important, but producers of nonwov-

(Continued on page 127)

*Presented at the September 12, 1956, meeting of the American Association for Textile Technology, Inc.

"Functional Finishes" were exhibited by various manufacturers in the Basildon Room of the Waldorf-Astoria during the Perkin Centennial.

What resin finishing does to light fastness of vat dyes

How latex affects tufted carpet dyeing

Roller printing on wool

Perkin Centennial-AATCC Convention report

Staff report

THE WALDORF - Astoria Hotel in New York was the scene during the week of September 10th of the Perkin Centennial celebration, paying tribute to the one-hundredth anniversary of the discovery of the first synthetic dyestuff, mauveine, by William Henry Perkin. The 35th National Convention of the American Association of Textile Chemists and Colorists was held during the last three days of the six-day celebration.

The Perkin Centennial was sponsored by AATCC, with twenty-seven scientific and technical societies and two departments of the U. S. Government participating in the occasion.

First prize this year in the AATCC Intersectional Prize Paper Contest was taken by the Piedmont Section for its report "Effect of Resin Finishing on Lightfastness of Vat Dyes" (see abstract on page 100).

Second prize went to the Washington Section for its entry on "A Study of the Scorching Characteristics of Fabrics," and the Rhode Island Section placed third with "Roller Printing of Wool Fabrics with Fast Colors."

The Association's 1957 Convention will be held at the Hotel Statler, Boston, Mass., Nov. 14-16.

Abstracts of three of the Intersectional Contest papers are given on the next two pages.

Dr. Walter J. Hamburger (right) receives the Olney Medal Award from Raymond W. Jacoby, president of AATCC.

Effect of resin finishing on light fastness of vat dyes

Piedmont Section
Winning paper
Abstract

FINISHING agents and treatments in many cases affect the fastness properties of dyes. For example, the early nitrogen-base cationic softeners destroyed the light fastness of direct dyes, as do urea-formaldehyde resins on rayon; thermosetting resins have shown an unfavorable effect on the light fastness of other classes of dyes on cotton.

The effect may on occasion be beneficial: Some cationic agents improve the water resistance of direct dyes.

During the past few years the use of thermosetting resins, highlighted by the development of "wash and wear" finishes, has become an important commercial factor — it is estimated that 500 million yards of cottons per year are currently finished with thermosetting resins. Therefore, studies of the effect of these resins on dyestuffs are important.

MILLS producing resin finished cottons dyed with vat dyes have noted that certain of the dyes lose their light fastness after the resin treatment; in a few cases the fastness is improved. Some dyes are unaffected when dyed separately, but are greatly affected when dyed in combination.

In this study, the effects of a dimethylol ethylene urea resin and an unmethylated melamine resin on a representative range of vat dyes on cotton were studied. Dyeings were made in a light and a medium shade by the pad-pigment method. Various factors in the resin treating process and in the resins themselves were studied.

Fifteen of the group of thirty vat dyes studied lose light fastness to some degree after treatment with these resins. Two colors showed a slight improvement in light fastness.

THE CONCLUSION reached after careful study is that the effect demonstrated is due to the characteristic -NCH_2OH group in the resin molecule.

The loss in light fastness is increased with increasing concentrations of the resins. Curing is unnecessary to produce the effect — the mere presence of the resin, even without catalyst, will decrease light fastness.

It was definitely established that the effect is not due to catalyst, nor to curing temperature, nor to the free formaldehyde which might be in the resin.

Previous experience with individual vat dyes cannot be relied upon when they are dyed in combination; the dyer must check each combination to be used.

In general, washing after curing will reduce the light fading effect where it occurs. The finisher need not be concerned about choice of catalyst if it is a chloride type (used in these tests), nor about the curing temperature. If the effect is going to occur, it will occur without curing taking place or without a catalyst being present.

Effect of Resin Treatment on Lightfastness of Representative Vat Dyes

Dyestuff	Color Index or Prototype No.	Effect of Resin[1]
Anthraquinone Vat Yellow GC	Pr. 9	0
Anthraquinone Vat Yellow 3R	Pr. 452	*
Anthraquinone Vat Yellow 5GLL	—	**
Anthraquinone Vat Golden Orange 3G	Pr. 290	**
Anthraquinone Vat Golden Orange RRT	CI 1098	+
Anthraquinone Vat Brilliant Orange RK	Pr. 116	0
Anthraquinone Vat Brown VR	—	*
Anthraquinone Vat Brown R	CI 1151	*
Anthraquinone Vat Brown BR	Pr. 118	*
Anthraquinone Vat Khaki 2G	Pr. 122	0
Thioindigoid Vat Pink FF	Pr. 109	0
Anthraquinone Vat Red FBB	Pr. 296	***
Anthraquinone Vat Rubine R	Pr. 124	0
Anthraquinone Vat Brilliant Violet 3B	Pr. 288	0
Anthraquinone Vat Brilliant Violet 4R	CI 1104	*
Anthraquinone Vat Violet BN (FFB)	CI 1163	*
Anthraquinone Vat Violet RK (AR)	CI 1135	*
Anthraquinone Vat Blue BCS	CI 1113	*
Anthraquinone Vat Dark Blue BR (BO)	CI 1099	0
Anthraquinone Vat Navy Blue RA	CI 1100	+
Thioindigoid Vat Blue GR	CI 969	*
Anthraquinone Vat Jade Green Supra	CI 1101	*
Anthraquinone Vat Olive Green B	Pr. 293	0
Anthraquinone Vat Olive R	CI 1150	*
Anthraquinone Vat Olive T	Pr. 547	0
Anthraquinone Vat Gray R	—	0
Anthraquinone Vat Gray 2G	—	0
Anthraquinone Vat Direct Black 3G	—	0
Anthraquinone Vat Direct Black RB	Pr. 289	*
Anthraquinone Vat Black B	CI 1102	0

[1] 0—No effect
+—Improvement
*—Slight loss
**—Appreciable loss
***—Bad loss

Roller printing wool

Rhode Island Section
Abstract

IN THE INITIAL stages of this study, it became apparent that some factor was giving variable results in roller printing on wool. This was found to be the result of the fact that the test samples had been exposed to widely

varying pretreatments.

A series of experiments was therefore carried out on a plant scale, using a 9-oz wool challis. The goods were scoured and dried, then portions were given various pretreatments, including alkaline chlorination, acid chlorination, treatment with Caro's acid (permonosulfuric acid — Sanforlan FC), treatment with acid-colloid resin solution, and treatment with formaldehyde.

The fabric was printed on conventional cotton printing equipment, using the following dyestuffs: direct, premetalized acid, premetalized neutral, insoluble azo, leuco vat esters, vat, white discharge prints with premetalized acid and with chrome colors, resin-bonded pigments, and "fiber-reactive dyes" (a new class). Acid and basic colors were not considered, because of their inferior fastness properties.

Not all the dyestuffs received all the pretreatments.

IT WAS CONCLUDED from these tests that practical roller printing of fast dyes on wool piece goods can be accomplished on conventional cotton equipment. This meets the demands of fashion and opens a new field for styling of wool fabrics and garments.

The pretreatment of wool fabrics with Caro's acid produces particularly bright shades, due to the whiter ground, and good color yield with most classes of dyestuffs. It also produces a degree of shrink resistance on wool fabrics. Equally good color yield is obtained by pretreatment with sulfuric acid chlorination.

Neutralization to pH 8 of any of the pretreatments before printing improves the color yield of the prints.

The dyes which produce a wide range of bright shades and good-to-excellent fastness properties are:

1. "Fiber reactive dyes" (roller printed on wool for the first time in this country, specifically for this paper).

2. Insoluble azo dyes.

3. Leuco vat esters.

The latter two may be printed together in the same pattern, as well as separately, thus giving a full shade range.

Vat dyes exhibit only fair fastness properties and cause considerable loss in tensile strength.

Prints with pigment dyes show good tinctorial strength, but have only fair fastness properties.

Effect of latex in dyeing tufted rayon carpets

South Central Section Abstract

ONE OF THE major problems that has confronted the tufted textile industry has been the difficulty of maintaining shade uniformity and color fastness from dye lot to dye lot.

Unexpected variations in dye shades have been met in dyeing and finishing tufted carpeting which has been backcoated with latex compounds, both in carpets dyed before and dyed after latexing. Uniform dyeing is particularly difficult to obtain when latex formulations are changed and dye formulations are held constant.

Since dithiocarbamate-type ultra-accelerators are commonly used to speed the vulcanization of the latex applied to tufted carpeting, it was decided to evaluate shade control with latex containing a dithiocarbamate accelerator compared to latex with no accelerator. Copper-free and copper-containing direct dyes were also tested, as well as the effect of the various dyes on the aging of the latex.

The fabric used in the study was a desulfurized spun viscose rayon, tufted on a light jute backing.

Four latex compounds were used, three formulated from natural rubber and the fourth from GR-S cold rubber. Three accelerators were used, holding the antioxidant and other ingredients constant. Seven copper-free direct dyes were tested, and five copper-containing dyes.

The carpeting was scoured and dyed in a beck by standard methods, and latexed on a roller coater.

SHADE VARIATION to an appreciable extent was caused by latex formulations containing dithiocarbamate in conjunction with dyes containing copper, while formulations containing none of this accelerator caused little or no shade variation of any of the twelve dyes selected.

Little effect on light fastness was caused by any of the latex compounds, whether applied before or after dyeing.

Wash fastness tests showed severe shade changes in dyes containing copper, when used in conjunction with latexes formulated with dithiocarbamate.

Shade control and washfastness are affected to a greater degree when the latex compounds are applied after dyeing.

The aging characteristics of the natural rubber compounds tested were adversely affected by copper-containing dyes, while GR-S generally suffers less degradation.

FREE REPRINTS
of wet processing articles

During the month of November only, TI readers are offered free one copy of any five of the reprints listed on pages 20 and 24 of this issue, so long as the supply lasts.

Many should be of interest to those engaged in wet processing of textiles. Among them are the following:

How to Use Ultraviolet Light in the Textile Industry

The Microscope and the Cotton Mill or Finishing Plant

Practical Piece Goods Mercerizing

Practical Warp Mercerizing

How Vat Dyeing Affects Cotton

It's easy to request these reprints. Just follow the simple instructions on page 20.—The Editors.

Judicious oiling, salvage of tangled sets, small parts replacement control add up to

Savings in the spinning department

by Maley Chagro
Exclusive

SAVING MONEY in the spinning room by reducing costs will constantly tax the ingenuity of the supervisor. Common practices may have a high cost rate simply because they have been accepted for years; and the supervisor who re-evaluates these practices periodically and methodically will no doubt find that in many of these practices he can reduce the department's over-all costs.

These practices involve, directly and indirectly, the all-important labor costs, where full utilization of the employees' time and ability must be obtained. Otherwise waste of manpower will occur to substantially increase costs, and the end result is to increase the cost per pound of yarn spun.

Saving costs on parts stock and supplies and their maximum usage can be accomplished through cooperative effort on the part of every employee in the department. Cost-consciousness should not be the sole prerogative of supervisors. Trained, cost-conscious employees will prove of inestimable value in reducing costs.

IN ONE mill a comprehensive effort was made to reduce spindle oil costs when it was revealed that this particular cost was constantly rising when it should have remained static, or even decreased according to spindles run. Before the study was conducted, a complete layout was made of the present system on a 40-frame section.

In this section the spindles were oiled every 40 hours or twice weekly on a two-shift basis. Sweepers and cleaners were assigned to the task, in addition to other duties. Gauged pump-type oil cans were used; and when not in use they were returned to the section hand and stored in a small supply room.

The supply room was accessible to all employees. When a check of the gauges on the oil cans was made, no two were found alike, and a further check of the spindle oiling procedure itself revealed that much oil was being wasted

from unwarranted overflow which dripped over the base rails. This was a common sight and also a common practice.

The first step undertaken was to determine the proper gauge for the oil cans. The supervisor, with assistance from the section man and spindle setters, had one frame set aside for study and tests.

All the spindles were oiled, and at the end of a 40-hour period a spot check was made of 20 or more spindles with each spindle recorded. The spindles and bases were removed, and the oil from each was poured into a glass tube similar to a laboratory test tube.

Prior to this a full base content was recorded under the test tube method. Very little oil had been used in the 40-hour period, slightly more than an eighth of an inch recorded on the tube.

Spindles, bases, and bolsters were replaced and the frame run 80 hours without any re-oiling. At the end of 80 hours, 20 different

spindles were tested, the oil drained from bases and bolsters, and the test revealed an average of approximately one-quarter of an inch of oil used in the test tube.

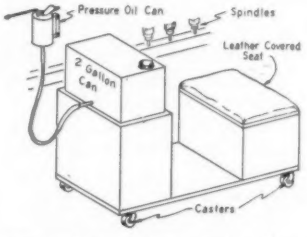
Two results immediately were known: Though the tests were by no means conclusive, the frame had run 80 hours without any shaking spindles or hot bases; that by setting the gauges of the oil cans to discharge approximately one-quarter of an inch of oil (¼" in the test tube) with each squirt, the loss of oil by uncontrolled overflow onto the base rails would practically cease.

Within a few weeks both sections in the department were under this control and oil savings immediately began to accrue.

More savings eventually occurred when the oiling task became specialized with one oiler assigned to oil all spindles in the department.

The oilers formerly sat on a dolly and used their hands and feet to push them around the frames when oiling the spindles. They had to refill their oil cans every frame or two, and much time was wasted going back and forth to the oil barrels.

When one man was assigned to oil all the spindles, a dolly was made, one end of which contained



a two-gallon oil can with the opening set slightly lower than the oil cups on the bases. One end of a rubber hose was connected to the opening in the two-gallon can and the other end to a hand type oil can.

When the oil can was held below the opening, gravity would cause the oil to flow in and fill it, and when raised to the level of the oil cups the flow would cease.

The other end of the dolly con-

tained a leather covered seat for the man. When the small pump type oil can was not in use, it hung on the side of the dolly at a position high enough to stop flow.

Thus, in the space of a few weeks a saving involving thousands of dollars yearly was accomplished by re-evaluating the common methods and accepted practices up to that time. The importance of retaining records for at least a year is emphasized because it was through these records that the excessive oil outlay was uncovered.

WHEN replacing bad spindles with new ones, a new bolster should also be used; but the old bolster, if still in good condition, should not be thrown away — it can be used as a replacement for a bad bolster on older but still true spindles.

New spindles should be checked daily by the section man for at least a week or two. It may be necessary to revise the oiling schedule temporarily until the spindles are fully broken in. Here again the section man should check closely for shaking spindles and hot bases.

Machine oil — that is, oil that is used for the pulley end oil reservoirs, cylinder bearings, and head end shafting and studs — should be stored in a container well removed from the spindle oil container, and both should be clearly marked to identify them.

SMALL unit savings on supplies other than regular parts stock soon add up to an impressive total.

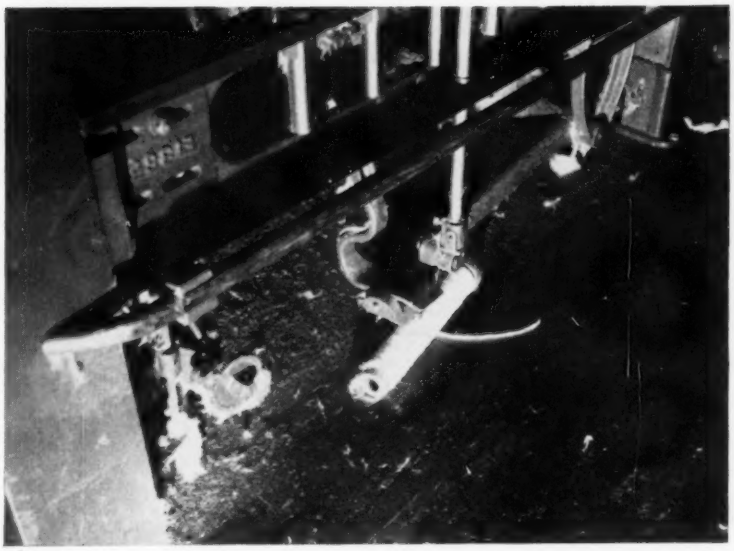
It is not an uncommon sight to see brass hooks discarded when the spinner can no longer effectively handle them. To get service out of these hooks, one mill uses a special handle when the hook reaches the discard stage. The handle is a simple affair made out of light metal with an opening of such size and shape that the hook will fit snugly into it, either rounded or flattened out, and held securely with an Allen head set screw.

It takes but a few moments for the section man to straighten out the bottom of the old hook and insert it into the handle. It is estimated that 30% more "life" is added to the hook and, though a small unit saving, it is a cost factor no matter how small.

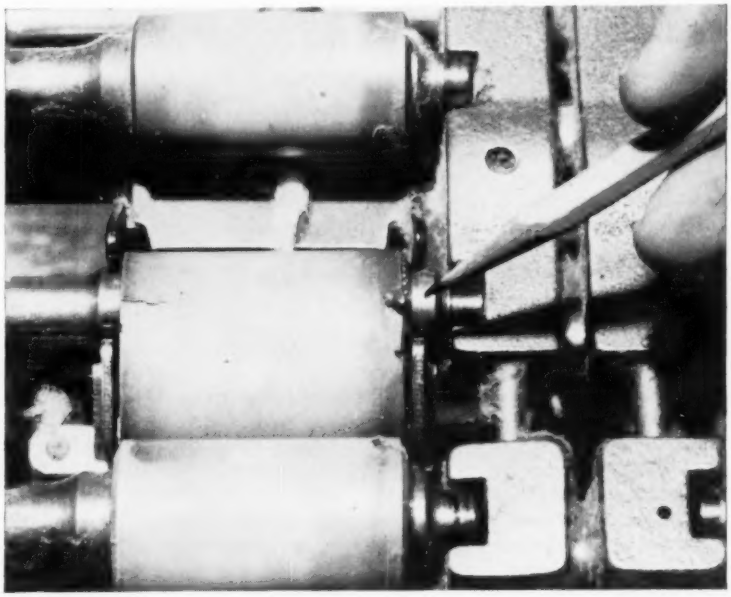
Supervisors who concentrate on these small unit savings will no doubt find many others that will lower the department's costs.

How important these small savings can be was emphasized by the president of a large eastern company, at a dinner given to the supervisors. He pointed out that hundreds of dollars a year are wasted through negligence and carelessness in the handling of bobbins. If it is a common sight to see bobbins lying around on window sills, on the floors, and under frames, it is difficult to train employees to be cost-conscious.

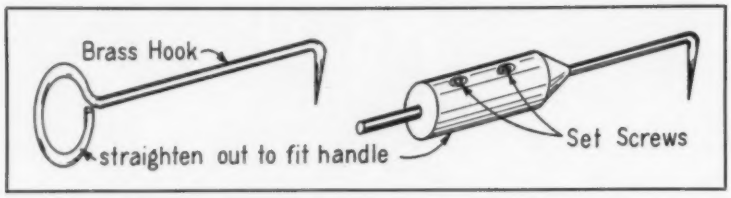
Tight bobbins should never be discarded if they can be reamed. Doffers in one mill have been care-



If bobbins are allowed to lie around on the floor, on window sills, and under frames, it is difficult to train employees to be cost-conscious.



In addition to presenting faulty drafting surface, cracked aprons lend themselves to the collection of lint which further hastens wear.



Added life is given to cleaning hooks by preparing a comfortable handle to receive them. The eye is straightened and the added length used.

fully instructed to place tight bobbins on the top frame creel where they are picked up periodically by the roving hand and shipped to be reamed. Every employee in the department should also be instructed to pick up bobbins from the floor and exercise care in their handling.

Whenever a bad "set" occurs, especially on filling with bobbins a quarter or half full, the yarn should not be discarded as waste if there is a possibility of rewinding it and converting the yarn into cloth. It was formerly a common practice to strip these bad sets on a waste reel with a resultant increase in all-around costs.

In one mill all bad sets are sent to the bobbin-stripping room which also contains a reamer and a Universal winder. Here all yarn that is worth saving is rewound onto quills and sent to the weave room where a special loom or looms weave it into the cloth.

As a preventive to these bad sets, the section man should, at the beginning of his shift, check under the frames for any obstacle that may interfere with the proper functioning of the weights on the rocker arms and the builder. Many bad sets have been caused by a roving bobbin being dropped on the floor and allowed to roll under the frame.

If these roving bobbins, especially full bobbins, are in the path of the weights as they traverse up and down or get wedged under the builder, a bad set will invariably be made.

Lifter rods on the frames should be carefully inspected and their traverse carefully observed for any hesitation while in operation.

Much has been said and published concerning rubber aprons versus leather aprons and vice versa. Test after test in this mill revealed that rubber aprons have longer life and accrue fewer laps than leather aprons. Leather aprons become "cracked" with wear, and this wear is hastened by the accumulation of laps which may not be altogether the fault of the apron itself.

Mills that still use the leather aprons should check carefully to see that they are properly installed. Leather aprons are cut on a bias, not only to strengthen them to resistance and friction but also to prevent the full splice from passing through the middle rolls in a straight line. Thus, the full friction of the rolls applies to only a part of the splice as it passes through the rolls.

AN INNOVATION in the oiling procedure for a twisting room (under the supervision of the spinning department) resulted in large savings. Oil slicks on the floor were many, and such conditions in the aisles constituted a safety hazard.

Most of the cylinder bearings were of cast iron, and once they started to wear, the section man used more oil than was necessary, hoping to prolong the life of the bearings. The result: Oil dripped onto the floor and the bearing burned out anyway.

To overcome any occasional lapse in the regular oiling schedule, and to save not only on bearings, but also to remove a hazard to safety, gravity flow oil bottles were installed on every cast iron

bearing other than head and foot bearings. This consisted of a metal outside tube inserted into the oil well of the bearing cap and extending about a foot above the cylinder.

The other end of the tube was threaded on the inside. Also inside the metal tube was a rod to carry the oil from the oil bottle which was screwed into the top of the tube. A bracket from the base rail to the tubes held them rigid. The inside rod carried the oil to the bearings through vibration imparted to it by the rotating cylinder shafts in the bearings.

The oil bottles held about four ounces of oil and needed refilling approximately once every two-and-a-half months on a two-shift basis. An added feature was that lint could not get through the oil holes of the bearings, and the oil bottles were clearly visible to the section man at all times or whenever he made periodic check-ups.

HOW important a controlled parts stock room can be in preventing unnecessary and wholly unwarranted costs can be evidenced by the fact that prior to this control in this mill, all parts ordered were delivered to the section man who in turn kept no records. With the stock distributed to various closets, shelves or bench drawers, and in many instances forgotten, reorders occurred which were totally unnecessary.

In one instance, when the parts stock room was completed, a search was undertaken to bring all classified parts stock under control. A

box containing 500 spinning saddles was found under an idle twisting frame. And only a week previously an order had been sent out for 300 saddles of the same type and make!

Maintaining a controlled parts stock room is relatively inexpensive and pays for itself many times over. The control should be solely in the hands of the supervisor who, at the most, would spend but a few minutes daily issuing stock, keeping inventory control records (receipts, withdrawals, and perpetual inventory balances), and reordering when necessary.

The treasure hunters

The American Gestapo

by Ringgold Arden
Exclusive

AMERICANS recently returning from visits to Russia have reported the Russians as being highly incredulous when told that people in this country are quite free, and that we have no secret police. The Russians claim that they know better and that we do have a secret police operated by the Bureau of Internal Revenue. The Russians claim that they know MVD methods when they see them, and calling our inquisitorial outfit the BIR doesn't help matters.

They point out that they can remember when the MVD was called the CHEKA, and then this was disbanded and replaced by the OGPU, which in turn was dismantled and succeeded by the NKVD, which later imperceptibly became the MVD. The Russians say that the more this changed, the more it was the same thing, and they note that calling such a department of the government the BIR or the Gestapo or any other name would leave it smelling just as sweet.

The American business man who has tangled with some of the treasure hunters, or technicality beagles, of the BIR might agree with the Russians. Many business men have come to realize that federal taxation is largely a matter of luck. If you get an ordinary, reasonable revenue agent, you will probably get along all right with him. He is usually primarily looking for income tax evaders; whereas the treasure hunter is simply interested in money.

The ordinary agent, upon coming in contact with a technicality which did not appear to be too clear, and which no Treasury rule seemed to fit very well, might be inclined to shy away from the thing and give the taxpayer the benefit of the doubt.

Not so with the technicality beagle, who looks with horror upon the thought of being at a loss for some rule to cover anything he encounters. For the dedicated treasure hunter, or technicality beagle, is a true bureaucrat, who possesses the bureaucratic mind. For him the intricate technicality has a strong, heady aroma which stimulates his glands and urges him to feverish activity.

As he digs into his technicality he soon begins to sniff the tantalizing, enchanting odor of money, and all he has to do is to fit the proper directive to the technicality to turn up with a nice bouquet of bright green cash to turn over to his superior and wag his tail for the merited approbation.

THE BUREAUCRATIC mind is different from the brain of ordinary people, and lives in a world of directives, rules, regulations, ukases, interpretations, rulings, and parallel cases. To the bureaucratic mind, the perfect world would be one in which there was a directive for everything, and everything perfectly fit its directive. Life not being ordered that way, the true bureaucrat has a terrible time reconciling conditions as he finds them with conditions as they ought to be.

It never occurs to him that in an orderly bureaucratic world there could be cases not accurately and admirably covered by some predigested regulation. The bureaucratic mind recoils from such a thought because it is above everything neat and orderly. The neatest and most orderly thing in nature is the vacuum, but the bureaucratic mind runs it a close second, and sometimes a dead heat.

One of the earliest prototypes of the bureaucratic type of mind was Procrustes. This Procrustes owned an iron bed, which he fondly conceived to be the exact, ideal size for beds, and he was in the habit of seizing travelers who went by his abode, and these would be stretched out upon the bed. Those who were too short, he stretched to fit the bed; and those who were too long were cut off enough to bring them to the Procrustean ideal.

It will be seen therefore that Procrustes had the true bureaucratic mind, and only the fact that he lived before the Christian Era prevented him from becoming the patron saint of bureaucrats, with his picture hanging in tens of thousands of government offices all over the world. As we remember it, Theseus killed Procrustes, and but for the accident of time, he might have become the patron saint of taxpayers.

THE TREASURY agent who is assigned to chase the elusive tax evader is working stony and unproductive soil; whereas the technicality beagle sniffs about in the lush vegetation of solvent businesses. The willful tax evader has gone to great pains to cover up everything as much as possible, and to keep as few records as he thinks a court will accept.

On the other hand, the honest business man has complete, accurate, and well-kept records. He is not trying to hide anything, and his records are a perfect Golconda for the treasure hunter.

The taxpayer, being possessed of only human intelligence, has certainly infringed one or more of the infinite number of technicalities springing from our tax system. The technicality beagle seizes upon this promising hunting ground with the utmost enthusiasm, and since he has considerable

(Continued on page 127)

Photo 1. Two or three loops which slip out of place can be cut one at a time and tied back with a square knot. Be careful to cut and tie each loop separately.

Photo 2. If so many loops slip that cutting and retieing the single loops are prohibitive in cost, cut through the entire group and retie with a bunch knot.

Follow these easy steps for salvaging tangled twister bobbins and

Cut cotton ply-yarn waste costs

by Frank Vogel
Consultant on
Statistical
Quality Control
Exclusive

ONLY that type of wind known as the regular or regular Dwight wind will be considered in this article. Tangled bobbins from this style of ring-rail wind can make considerable waste because the tangled portion in many cases is at the upper part of the bobbin (at the nose) and this form of entanglement will be the principle subject of our discussion.

As may be seen from Figure 1, the wind begins at the full length of the empty bobbin and then gradually recedes at the upper end until there is a more or less sharp angle tapering off when the bobbin is full.

While this article deals specifically with bobbins already tangled, an important fact to bear in mind is to avoid having the tangled bobbins at all. Since rings or ring rails out of adjustment are usually the cause of the ends of yarn slipping over the top of the bobbin, these points should be carefully checked from time to time to see that they are in correct adjustment.

Sometimes a single loop will slip out of place. To pull haphazardly at the tangled part is to make a bad matter worse. Any pulling at the loose entangling ends will cause a quantity of expensive ply-yarn going into waste.

Fig. 1
The first traverse of the Dwight wind covers the entire length of the bobbin. Each succeeding traverse is progressively shorter.

Generally, bobbins with a number of coils running over the top of a bobbin may become a total loss if remedial action is not promptly taken.

When the coils of the beginning layers are just commencing to escape over the top of the bobbin, soaking the top end of the bobbin in water and pressing the loose ends firmly downward with the fingers so that they will, for the time being, remain in place should be sufficient correction *if the bobbins are promptly run off at the next process.*

This fact should be kept uppermost in mind for the best results—run off the bobbin as soon as possible after the wetting. If the bobbins are left too long following the water immersion, the ends of ply-yarn will dry out, and in re-loosening, start a fresh entanglement.

Obviously, then, some system must be devised to check the tangled bobbins and sort out those that can be easily retrieved by

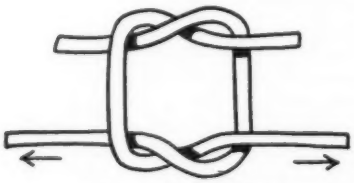
means of the dipping process and pressing of the loose ends. The foremen should see that these bobbins are put aside. The next thing is to get them run off promptly. This should be a must.

Having disposed of these readily managed tangled bobbins, the next thing is to select those bobbins that, although pulled over the top, have only a few ends in this condition—say, two or three. See Photo 1. Care should be taken in handling these two or three since mishandling will only accentuate the tangled condition and might even add more ends to the same undesirable plight.

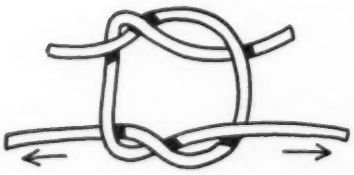
The thing to do is to cut each loop in its center and then tie the two ends together with the knot pressing closely to the bobbin. Enough of each end of the loop must be pulled out carefully so that a sufficient length is available for tying a good knot.

Although this will result in two or three knots in a somewhat restricted length, it certainly is a waste-saver and should be adopted if at all feasible. Again it is sometimes advantageous to run the bobbin to the first knot and then pull off the short yardage involved. The bobbin top should be dipped in water.

It might be well to say that a square knot is a good one to tie.



SQUARE KNOT



GRANNY

Care must be taken not to tie one end of one loop to that of another. Should this be done the ply-yarn end will break when it comes to the hybrid knot.

Unfortunately, there may be bobbins where more than three or four loops are pulled over the top. In such cases great finesse is required so that the entire top is not pulled into an entanglement thereby spoiling the whole bobbin.

The thing to do is to gather the entire lot of loops together, first pulling them from the bobbin sufficiently so that a bunch knot can be tied. Photo 2 illustrates how this is done.

The loose loop ends are drawn out and cut through where indicated. Next a bunch knot is tied as tightly to the bobbins as possible. The bobbin top is then dipped in water to keep the knotted portion from becoming loose when the bobbin is run down to the bunch knot. It must again be emphasized that the wetting is a most important part of the whole procedure.

When the yarn is run to the bunch knot, a review of the situation should take place. In some instances the yarn salvaged up to the knot is all that can be saved.

Sometimes, however, the yarn contained in the knotted portion may be pulled over the top after the bobbin is carefully dipped in water. There may still be a sizeable amount of ply-yarn left on the bobbin to make this effort worthwhile.

Operatives on the twisting machines, fixers, and supervisors should all work cooperatively to point up any condition that may be conducive to tangled bobbins. Corrective measures should then be promptly applied. It is surprising to see what such teamwork can do to reduce the number of bad bobbins in any plant.

Notes on the Japanese cotton spinning industry

by a Japanese mill man
Exclusive

● AT THE end of June, 1956, the Japanese cotton industry had 8,392,520 spindles and 385,299 looms. Production of cotton yarn is the equivalent of 190,000 400-lb bales per month, and cotton fabrics produced are the equivalent of 253,000 bales.

Average production per day per spindle is 0.413 lb (average for all counts) in Japanese mills. Looms average 58.6 lb for all constructions.

JAPANESE mills were required to halt their expansion at the end of 1952; since then the accent has been on improvement of spinning techniques. The visit of the Cotton Technical Team to the U.S.A. in 1954 gave added impetus to the Japanese cotton industry's drive toward modernization and technical improvement.

The increase in the number of super high draft spinning frames during the past few years has been outstanding. At the end of 1955 these numbered about 950,000 spindles, or about 12 per cent of the total.

Changeovers to larger size cans in carding and drawing are common, as is lengthening the lift and increasing the ring size of spinning frames.

At the end of 1955, 6.4% of the cards in Japanese mills were using 14″ cans; 7% were using 12″ cans. 7% of the drawing frames were using 12″ cans.

Of the total roving frames in place, 48% have an 11″ lift, and 48% of the spinning frames have a 7″ lift. 69% of the spinning frames have 1¾″ rings.

SINGLE PROCESS pickers are increasing in number — 24% of the total are now of this type.

In drawing, there is a strong trend to changeovers from 4-roll to 3-over-4 or 4-over-5. Three-process drawing is gradually being abandoned for two-process.

In roving, the conventional (in Japan) 2- or 3-process set-up is being rapidly displaced by the apron-type high draft, single process frame, although in 1955 only 4.5% of the frames were high draft.

(Continued on page 129)

Warp sizing

Article 7 — Analysis and testing of materials for sizing*

Why analyses are misleading
Interpretation of results
What to test
Test methods

by Paul V. Seydel, D.Sc.
Seydel-Woolley & Co.
Exclusive

Courtesy, Seydel-Woolley & Co.
The laboratory must be adequately equipped for analysis work.

IF GENIUS is an infinite capacity for taking pains, no one has this quality more developed than a good analytical chemist. Of course a good one is as scarce as a real genius. When a chemist solves the problem of identifying the different ingredients of a complex mixture of organic compounds, he has performed a task worthy of much greater praise and reward than he generally gets.

My father once was asked to duplicate a sizing mixture exactly. He would have hesitated to do so if it were not that for excellent reasons he knew the exact composition of it, being the inventor of its formula.

He first examined it, and the examination indicated it had not changed since the day he was familiar with its manufacture. He then duplicated the formula and methods of mixing, reactions, and temperature control on all details of which he had carefully kept in notes so that the sample and his duplicate looked very much alike.

In order to convince the client that the duplicate was perfect, he took a quantity of each to an experienced analyst, in whom he had great confidence, and told him he wanted a report showing the difference, if any. The analyst asked him many questions, which a man with less knowledge and reputation would have had too much false pride to ask. To simplify his work, my father told him exactly what to look for and simply to determine proportions.

After a week he called my father up and told him that in spite of diligent efforts he could not identify all the ingredients he had been told to look for. My father conferred with him, checked up on his results, made a few suggestions, and the chemist went back to work. At the end of another week he offered his report, which read substantially as follows:

"The two samples submitted have been analyzed and without guaranteeing the accuracy of findings, the proportions of the following ingredients have been found. . . . I am inclined to believe that the composition of the two samples is identical."

Next time my father saw him he told him to send in his bill. He said, "Seydel, the time I spent on this is more than I care to charge you for. I enjoyed the work and you taught me a thing or two, but do not give me another job like it unless you are prepared to pay two or three hundred dollars for it."

And this was in spite of the fact that he had been told what to look for and how to do it and just to determine the proportions. What would he have said had he been compelled to grope in the dark?

Analyst Has Difficult Job. If the average analyst tried before turning in the result of his analysis to make a sample of the goods according to his findings, he would find out how far off he is in nine cases out of ten, especially if he tried to obtain identical results with it by actually using his material in a practical test.

I might be able to explain why some chemists find materials that are not present and do not find the ingredients that are actually there, but this would involve me in too technical a discussion for the object of this series. Anyone who wishes to spend a few dollars to see for himself what difficulties lie in this sort of analysis need only to send duplicate samples of the same sizing compound to several different highly reputable analytical laboratories, requesting

*This series of articles, which deals with all phases of the warp sizing operation for cotton yarns and yarns produced from man-made fibers, began in the May, 1956, issue of TEXTILE INDUSTRIES. Reprinting of the entire series in book form is planned.

determination of the kind and amount of constituents, without any further explanation. The cost of the analysis would be one indication, and when he tried to compare the results, he would begin wondering if he actually sent the same material to the different laboratories. And unless one laboratory had had experience with this type of material, they would probably all be more or less inaccurate.

Why "Analyses" Are Misleading. The purpose of my comments is simply to state that we must not accept the claims of an analyst who declares that he can identify accurately the component parts of a complex mixture of organic compounds, or even one who claims to be able to make an approximate guess without going to so much trouble that the charges for his work would be prohibitive. We may readily determine the elements but quite often will fail when reporting the combination of these elements.

To make this clear, let us cite an example. An analyst may report a compound to contain glycerin The glycerin may have been in combination as it is in tallow or it may have been free, and this makes all the difference in the world as to its properties and value as a sizing ingredient. In this particular case, the glyceride called tallow is merely a softener or lubricant, insoluble in water, whereas glycerin is a deliquescent highly soluble in water and is no lubricant.

The chemist divides materials in three groups: (1) elements, (2) compounds, (3) mixtures. Elements are readily identified. The second class is very numerous, but its units are perfectly definite in composition. The third is of course extremely numerous. There is no fixity in its members which often makes it extremely difficult, if not impossible, to identify their nature.

Sizings are often very complex mixtures and from their nature very hard if not impossible to analyze accurately, even approximately. It is next to impossible to determine accurately the proportions of a mixture of fats and of gums if it is composed of fats that are very similar chemically.

There are dozens of gums, all derived from starch, which are equally hard to identify. Once cooked or chemically treated, it is next to impossible to differentiate between potato starch, tapioca starch. corn starch, and the gums produced with them, especially if they are mixtures of different starches and gums. Fats also can be bought from 2¢ to over $1 per pound with about the same amount of variation in their properties, so percentage total fats does not tell the story either. Nor are the more expensive fats always the most suited.

The analysis of a sizing compound is valuable to check on whether successive shipments are similar as to proportions of such ingredients as total fats, total moisture, etc., but is a very poor indication of the money value or the efficiency of the compound.

Interpretation of Results. The interpretation of results of analyses is a study in itself—a sort of combination art and science, plus a little intuition and a lot of experience. Even the most experienced sizing expert would not claim to be able to judge the efficacy of a size compound from its analysis alone.

The amount of fats alone in a size has no more relation to its effectiveness than has the amount of oil in the crankcase of your car. If the oil in your car happened to be linseed oil or kerosene, even though the crankcase were full, you would not expect your bearings to last long.

Proof of Size Is in Weaving. The only valid test for size materials is in the weave room. Even there it is difficult to determine small differences in materials by short tests. As an engineer in constructing a bridge allows a certain safety factor to take care of extreme conditions, properly prepared sizing materials are made to do more than the absolute minimum that would be required of them under perfect weaving conditions. Only experience will tell how much safety factor to allow for variations in cotton or staple and filament rayon, in carding, in spinning, and in atmospheric conditions, as well as for the human factor in processing.

It is the continual appearance of these variations which makes determination of small differences in sizing materials difficult even in the weave room over short testing periods. Here is brought out what a certain pharmaceutical manufacturer speaks of as the "priceless ingredient"—the integrity of the manufacturer. This item, as important as it is, will show up in no kind of analytical scheme.

This definitely does not mean that analysis of materials is a waste of time. Far from it. In the same way that a mill man tests his cotton to check its uniformity, he should run regular tests on his sizing materials—to be sure they are uniform.

Certain of the materials used in sizing lend themselves readily to checks for uniformity. Practically all materials that are single entities can be fairly well evaluated. Uniformity in physical characteristics and in chemical composition should be demanded of all suppliers. A discussion of the subject of analysis of textile chemicals together with a fairly complete bibliography is given by J. F. X. Harold in "Textile Research. A Survey of Progress," M. I. T. Technology Press, 1932.

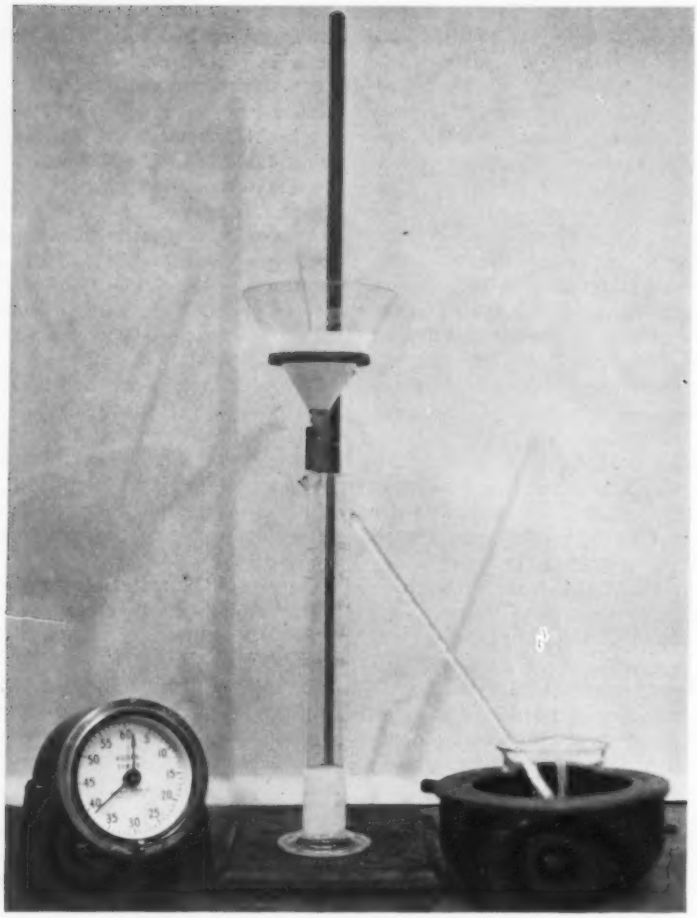
Herewith are given a number of tests that can be carried out without too much layout for chemical equipment and chemist's time. In describing these, it is assumed that the user has a basic knowledge of and experience with general chemical analysis and access to the more familiar chemical literature. On this assumption, the methods are not given in detail. The latest editions of the following works are practically essential to any extensive work in this field:

"American Society for Testing Materials Standards," Part III. Nonmetallic Materials. General.

"Standard Methods of Chemical Analysis," Scott, D. Van Nostrand.

"Yearbook of the American Association of Textile Chemists and Colorists."

"Handbook of Chemistry and Physics," Chemical Rubber Publishing Co. or Lange's "Handbook of Chemistry,"



Equipment for alkali fluidity tests of starch.

Handbook Publishers, Inc.

"Textile Testing," J. H. Skinkle. Chemical Publishing Co.

"Federal Specification for Textiles; General Specifications, Test Methods." CCC-T-191b U. S. Gov't.

"Textile Laboratory Manual." Walter Garner. Chemical Publishing Co. 1951.

"Analytical Methods for A Textile Laboratory." Amer. Assn. of Textile Chemists and Colorists, 1949.

Starch. Starch may vary in cleanliness, moisture content, pH, viscosity, and in several other qualities more difficult to test, such as adhesiveness and film-forming properties. The standard brands of starch purchased from reliable manufacturers are about as uniform as anything the mill man can buy. Even these, however, may vary in moisture content if not properly stored.

Viscosity will vary from one starch to another, particularly in the modified starches, each manufacturer having his own standards and his own test methods. Testing of viscosity by determination of "alkali fluidity" is simple and requires little equipment, but the accuracy of the test is greatly dependent on the human element, and the test should be carried out by a careful technician.

The method used to test alkali fluidity of starch is preferably that recommended by the supplier.

One of the most popular standard methods is carried out as follows: Two grams of thick-boiling or 4.5 grams of thin-boiling starch (weight based on weight of dry starch) is pasted with 10 cc of water. To this is added 90 cc of 1% NaOH at 75 F. Stirring is continued for 5 minutes, and the whole kept at 75 F for another 30 minutes. This alkaline paste is transferred to a funnel whose tip has been constricted so that on introducing 110 cc of water into the funnel, 100 cc will flow out in 70 - 75 seconds.

Using the time required by the water as a standard, the alkali fluidity is measured by the number of cc's of starch paste which will flow through the funnel in this standard time. It is important to maintain the time and temperatures uniform, and the caustic solution should be free of sodium carbonate. Lumps and air bubbles must be avoided in stirring.

Such a method, of course, does not give results in absolute units of viscosity, but is very useful for testing uniformity. It should be particularly noted that starches containing small amounts of borax as a modifier will give quite high results on the alkali fluidity test as compared with their boiling fluidity.

We should probably note that "viscosity" and "fluidity" are reciprocal terms; that is, a paste with a high viscosity will have a low fluidity, and vice versa. "Fluidity" is the property a liquid or a paste has of being fluid, or being able to flow. The more readily and the more rapidly it flows, the higher its fluidity. A 40 fluidity starch will flow through an opening twice as fast as a 20 fluidity starch—and will consequently penetrate more rapidly into the interstices of the yarn.

"Viscosity" is the lack of fluid flow, or the thickness of a liquid, and is usually measured in centipoises, while for starch, fluidity measurements are arbitrarily chosen figures based on a certain type of test. The scientist is usually interested in viscosity, or resistance to flow, and measures this, while the man handling starch is usually interested in the penetrating properties of the paste, and so measures fluidity.

Moisture. The amount of moisture present will, of course, affect the amount of actual starch weighed out by the size maker. Where storage conditions may affect the moisture, this should be

tested regularly by the following method:

Weigh ten grams of starch accurately into a 250-cc Florence flask with a ground glass joint. The flask is then half-filled with xylol, fitted with a moisture trap and a reflux condenser. Bring the xylol slowly to a boil. Reflux slowly for five or ten minutes until collection of water in the trap has slowed. Then boil vigorously for a half hour. Read the amount of moisture from the graduations on the trap. Continue boiling for ten minutes and read again. Continue this until a constant reading is obtained, cool the trap to room temperature and make reading, and then calculate the moisture in the starch. If water tends to stick to the reflux condenser, dislodge the drops with a piece of copper wire having a small loop or hook at the end.

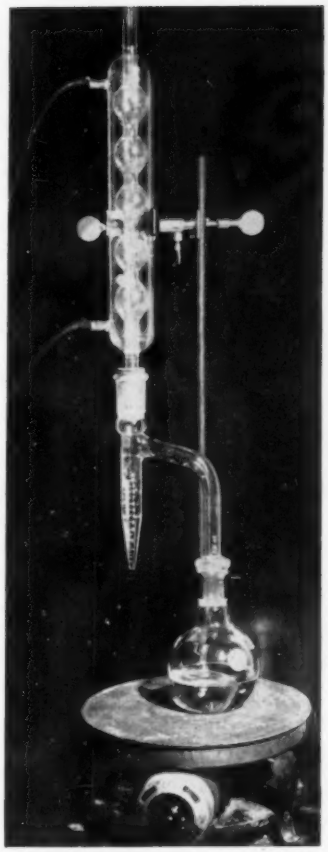
For accurate work, the xylol should be prepared as follows: Shake one gallon of pure xylol with 100 cc of water. Let stand with occasional shaking for several hours, then decant the xylol from the water. Distill, discarding the first and last 10 cc. It is now ready for use. Xylol at its boiling point holds a small amount of moisture, so that if it were too dry, the results would be too low; if it were saturated at room temperature, it would lose some at its boiling point and the results would be too high.

Reading on the graduations must be done with great care to avoid the effect of parallax—the technical term meaning error due to reading from an angle instead of straight on.

Normal moisture content varies with the type of starch. Corn will have 10%-12%; potato will have 15%-18%; tapioca 13%-15%.

To test the cleanliness and color of starch, spread a few grams over the surface of white paper. Compare with the same quantity of a standard. Shake a few grams with cold water in a test tube and allow to settle. Bits of metal or dirt will settle to the bottom, under the starch; woody trash will float. Compare with standard. (To check, wash through bolting silk sieve with cold water.)

The pH is tested in a cold 10% suspension in freshly boiled, then cooled, distilled water. Use an electrometric pH indicator. If this is not available, sufficiently accurate tests may be made with short-range pH paper, covering the range between 4.5 and 8.5.



Apparatus for testing moisture by xylol method.

Chloramines (Starch Thinners, Such as Aktivin). The only test of interest for these materials is available chlorine. On long storage or storage for shorter periods exposed to moisture, chlorine will be lost. The value of any particular chloramine is proportional to the percentage of available chlorine. This may be tested by any of the methods used for available chlorine in hypochlorites, found in any standard work on analysis.

The method consists in adding potassium iodide, freeing the chlorine by acidifying, which in turn frees iodine from the iodide. The free iodine may be titrated with arsenious acid or sodium thiosulfate.

Enzymes. Test by the ASTM method for desizing yarns or cloth with the following change: The enzyme desize is carried out for exactly five minutes in a constant temperature bath or oven, not allowing the temperature to vary more than one-half degree. The samples should be warmed to bath temperature before being put into the solution. The sample weights are preferably exactly ten grams Exactly 20 times the sample weight of a 0.100% enzyme solution is used (200 cc). Evaluate the enzyme on the basis of the percentage of size removed. Comparison should, of course, be made on a sample of the same yarn or cloth each time.

Softeners and Slashing Compounds. Again a word of warning about attempting to evaluate softeners and similar materials on the basis of approximate analysis. It is no more valid than attempting to evaluate the spinning properties of cotton from its chemical analysis. Since analyses are often made, and since they are useful to check uniformity, some of the methods found by experience in the author's laboratory to be the most satisfactory are given.

(Note: the table [on p. 113] shows the composition of some slashing compounds in actual use. The analyses were made in the writer's laboratory by chemists specializing in work on sizes. These were chosen from a selection of sizes manufactured by reputable concerns, and to the knowledge of the author, all gave at least satisfactory results, showing that great variation in materials is allowable if the proper balance of properties is maintained. It should be noted that some of these differences are due to variations in requirements.)

Moisture. Determine by xylol, as given under starch. Note: If much darkening of the compound occurs, this is generally due to some decomposition of starch or starch gums present, which will probably cause the moisture to run slightly high. Toluol would be a better solvent to use in this case instead of xylol if it can be shown that no deliquescent agents (such as

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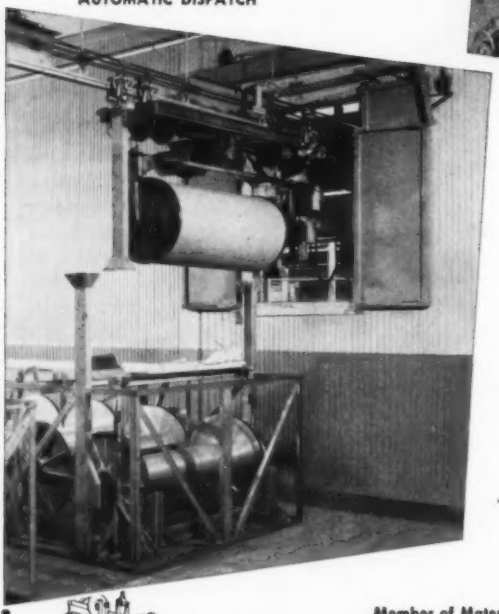

By following the guide prepared by members of the MonoRail Manufacturers Association when purchasing materials handling equipment, you are assured of getting maximum safety and minimum maintenance and still satisfy your operating requirements.

The guide represents the efforts of the combined experience of all the engineers of the association members. The specification guide has just been published.

A copy of these specifications will be forwarded on request. Write also for a copy of the American MonoRail Bulletin C-1 describing hundreds of successful solutions to handling problems.

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Analyses of Various Sizing Compounds

Possible variations in compositions are shown. All samples were taken from materials actually in use in mills. Part of the variation is due to variation in requirements, part due to use of different fats or gums, some of which are more efficient than others, therefore requiring different amounts to obtain a balanced size.

Total % Fats	% Saponifiable Fats	% Unsaponifiable Fats	% Moisture	% Ash	% Starch and gums	% Chlorides	% Sulfates
85.3	66.0	19.3	13.7	1.0	0.0		0.6
31.8	8.2	23.6	51.1	7.0	12.3	6.3	
96.0	5.5	90.5	2.2	1.8	0.0		
58.4	58.4	0.0	35.4	6.2	0		4.2
47.0	27.0	20.0	49.7	1.3	2.0	1.1	
51.5	51.5	0	45.7	0.8	2.0		
47.5	28.2	19.3	40.7	1.9	9.9	0.5	0.3
55.0	50.4	4.6	43.4	1.6	0		0.7
20.5	17.0	3.5	56.2	0.3	23.0		
96.3	46.7	49.6	3.6	0.1	0		
31.8	20.2	12.0	36.2	17.0	15.0	16.6	
99.8	14.5	85.3	0.2	0	0		
26.0	9.7	16.3	55.8	7.0	11.2	6.7	
31.5	22.1	9.4	67.0	1.5	0		
24.4	24.4	0	70.5	5.1	0		
17.1	8.7	8.4	55.0	12.8	15.1	12.8	trace
25.4	7.0	18.4	53.5	6.5	14.6	6.1	

glycerin, chlorides, etc.) are present. The lower boiling point of toluol gives less chance for decomposition, but will not be high enough to remove readily all the water from a deliquescent agent.

pH. pH is most conveniently tested in a 10% emulsion or solution, using freshly boiled and cooled distilled water. If an electrometric pH indicator is not available, use short range pH paper indicators, available at any chemical supply house. pH papers on hand should cover at least the range from 4 (acid) to 10 (alkaline).

Ash Test. A one or two gram sample is ashed in a muffle furnace or over a Meker burner in a porcelain crucible. Great care must be taken to avoid loss while any moisture is driven off and while the fat is decomposing. Where materials contain chlorides, the ash determination is not of much value, for at the heat necessary to remove the carbon produced by the decomposition of organic materials, some chlorides are volatile. Ash tests in themselves are of very little value in analysis, but should be used in conjunction with other tests to assist in interpreting other results.

Test for Fats, Oils, and Waxes. Reflux ten grams with 100 cc of 10% sulfuric or hydrochloric acid for one hour. Extract with low-boiling petroleum ether, wash the extract with water twice, and evaporate the petroleum ether on a steam bath to practically constant weight, using a porcelain evaporating dish. A definitely constant weight will probably never be obtained, as most oils are slightly volatile at this temperature. Calculate percentage fats, oils, and waxes.

To determine the approximate freezing point of the mixture, dip the bulb of a thermometer into the melted mixture. Remove thermometer, hold horizontally with the bulb slightly low, so that a drop of the melted mixture collects on the bulb. Twirl slowly. Read the temperature at which the drop freezes and turns with the thermometer. It will generally cloud up a few degrees above the freezing point. (Accurate freezing points are difficult to make and require special apparatus, but this method

Line-operated pH meter in use.
Courtesy Coleman Instruments, Inc.

The Series 1500 Temco muffle furnace for ashing a small sample.
Courtesy Thermo Electric Mfg. Co.

FACTS about **NEW DEPARTURE BALL BEARINGS**

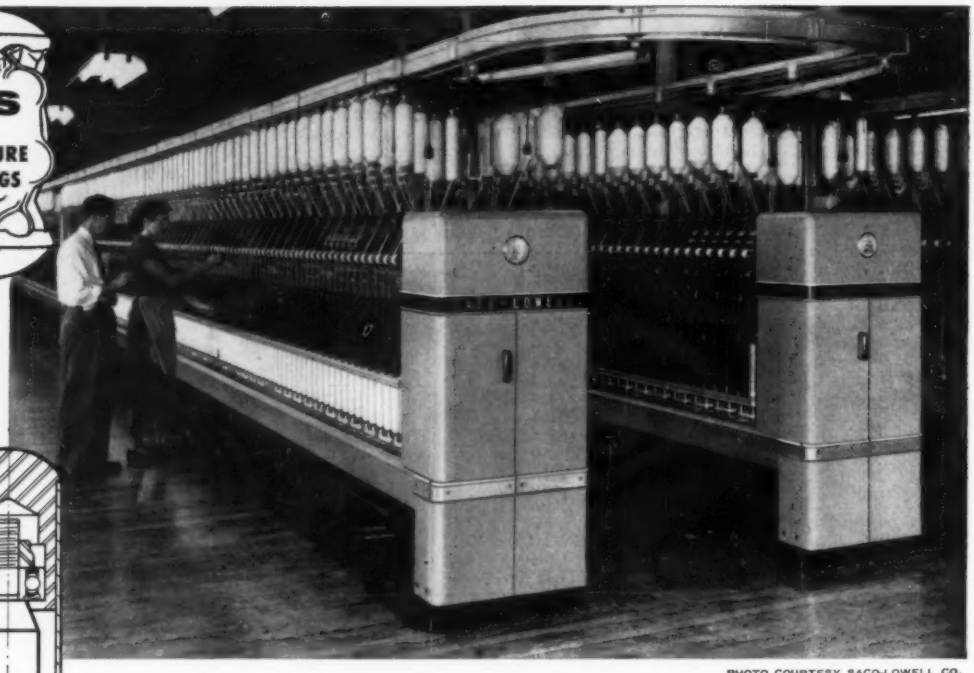
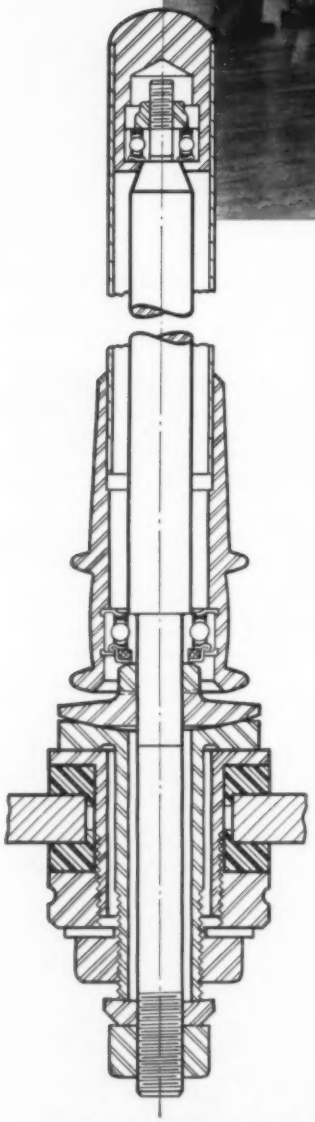


PHOTO COURTESY SACO-LOWELL CO.



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WHY LEADING SPINDLE MAKERS CHOOSE NEW DEPARTURE SEALED AND LUBRICATED-FOR-LIFE BALL BEARINGS

Cleaner yarn . . . lowest friction loss . . . virtually zero maintenance! These are major reasons leading spindle manufacturers choose New Departure sealed and lubricated-for-life ball bearings for spinning spindles.

By virtue of grease lubrication and highly efficient sealing, these bearings keep lubricant *in* and dirt *out*, eliminating the formation of oil mist. There is no oil-soaked yarn, no oil and lint mixture on the spindle rail. What's more, the need of relubrication or adjustment of these bearings is virtually zero throughout long life.

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Every day leading manufacturers are discovering more uses for the inherent advantages of the ball bearing. A letter to New Departure will secure for you information regarding the latest bearing applications in *your* field. New Departure, Division of General Motors, Bristol, Connecticut.

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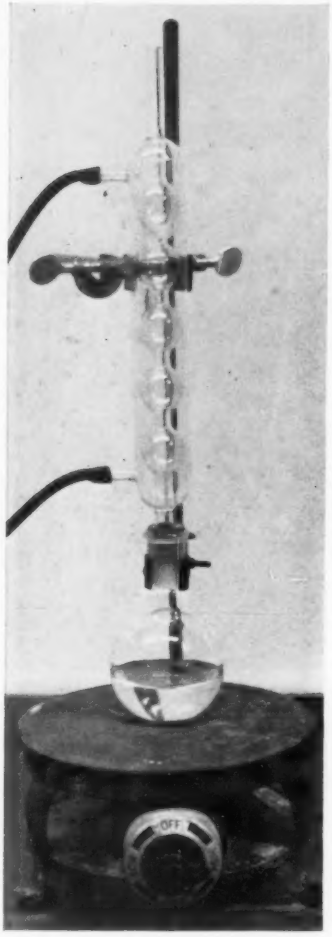
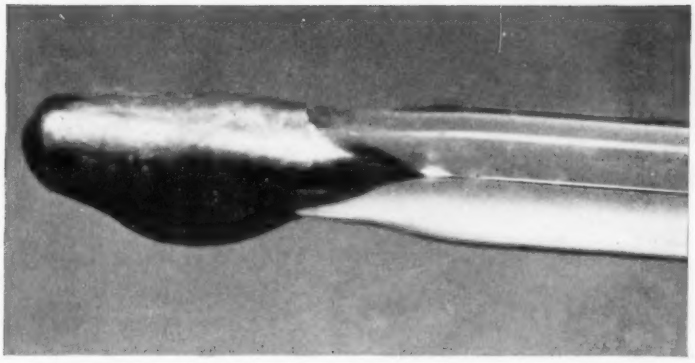


Equipment for refluxing.

is satisfactory for the purpose.)

Many sulfonated products will not be sufficiently broken down by one hour's refluxing. If sulfonic acids are suspected, do the original hydrolysis with hydrochloric acid, and test a few drops of the solution for sulfates with a few drops of barium chloride. If this test is positive, reflux the acid solution after removal of the fats for a further three or four hours to determine if any more fats separate. (Do not take this precipitate as a positive test for sulfonic acids, as sulfate salts will also give a positive test.)

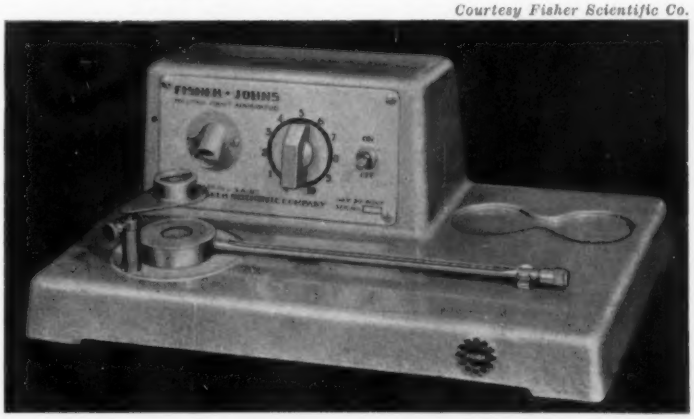
Saponifiable and Unsaponifiable Matter. If desired, the mixture obtained in the foregoing may be further broken down into saponifiable and unsaponifiable fractions. Reflux the fat mixture after weigh-

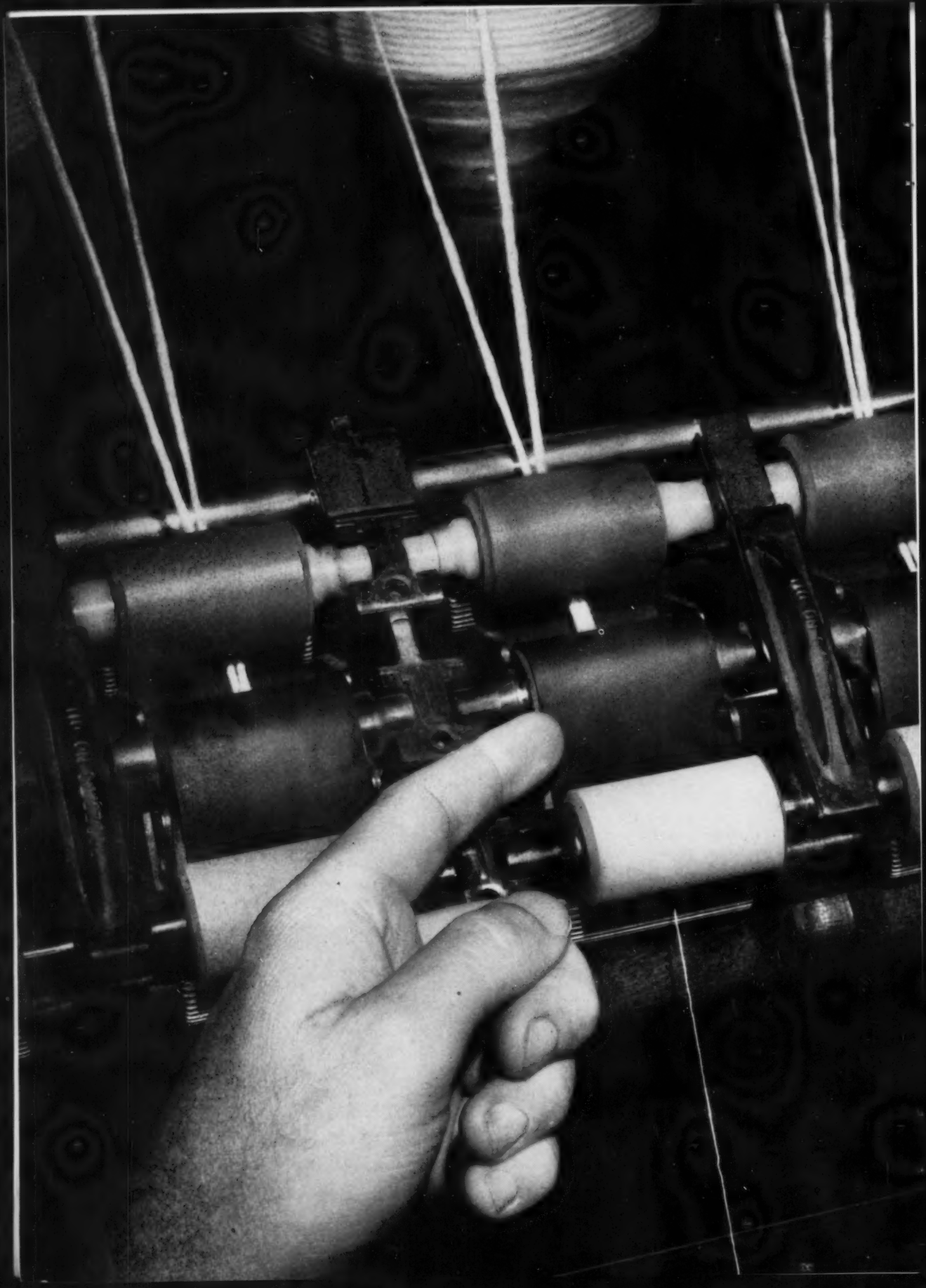


Determination of freezing point of a drop of wax on a thermometer bulb. Temperature at which drop freezes and turns with the thermometer is called the "freezing point."

Apparatus for determining melting point.

Courtesy Fisher Scientific Co.





Why Accotex Aprons give LONGER SPINNING LIFE

In many mills, Armstrong Accotex® Aprons are spinning top-quality yarn as long as eight years after installation.

One big reason for this is the high quality of the synthetic rubber compounds developed especially for these aprons in the Armstrong Research and Development Center.

These compounds are designed to have long flex life as well as maximum resistance to abrasion and tearing. As a result, even with the faster speeds and heavier weightings used on today's high-draft equipment, Accotex Aprons spin top-quality yarn year after year.

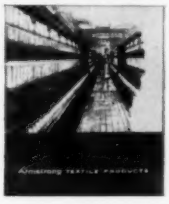
One of the many research tools used by Armstrong engineers to test the wearing characteristics of Accotex Aprons is the Flex-Life Tester shown below. On this device, as many as fourteen different rubber compounds can be stretched and relaxed more than 350 times a minute.

Just a few days of this testing is equivalent to a lifetime of on-the-job operation. Only compounds that can stand up longest to this kind of punishment are chosen for use in Accotex Aprons.

This "torture-test" is one of the many exacting steps taken by Armstrong textile research men to make sure Accotex gives efficient, dependable spinning performance. Other advanced testing methods, plus the latest production techniques, also assure you that these aprons will always deliver strong, uniform yarn.

If you're not already using these aprons, arrange for a test frame next time your Armstrong representative calls. No matter what type of equipment you're using—no matter what type of fiber or blend you're spinning, there's an Armstrong Accotex Apron specially engineered for your job.

WRITE TODAY FOR THE BOOKLET, "Armstrong Textile Products." It gives a description of Armstrong textile products, including suggestions on selection, installation, and maintenance. Write to Armstrong Cork Company, Industrial Division, 6411 Ivy Street, Lancaster, Pa.



Armstrong ACCOTEX APRONS

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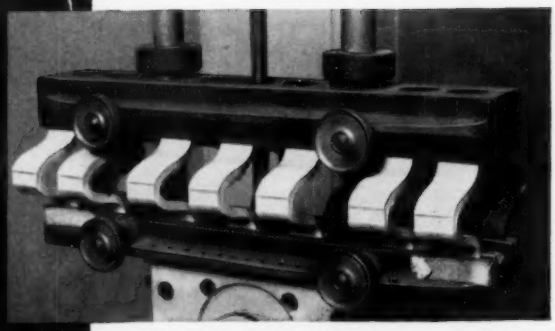
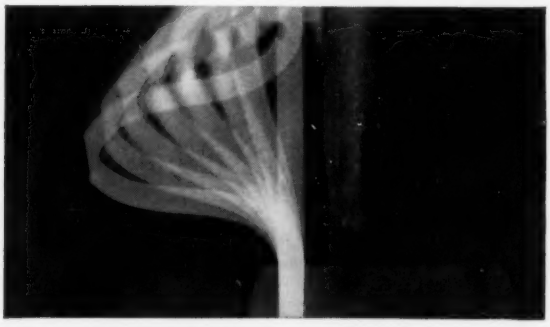


ARMSTRONG FLEX-LIFE TESTER can check the flex resistance of 14 different synthetic rubber compounds at once. It helps speed selection of best synthetic rubber compounds for Accotex Aprons.



STROBOSCOPIC PHOTO shows Flex-Life Tester in action. On it, synthetic rubber compounds have taken over 4 million flexes without cracking—the equivalent of several years of actual service.

How the **AVISCO** Integrity Program helps you profit from higher rayon quality standards

Virtually everyone in the textile business agrees that long-term quality controls are better for business than short-term sales expediency. Today most consumers must have *confidence* in quality before they will buy.

In the rayon and acetate industry this confidence-building job was undertaken a year ago by the American Viscose Corporation. To provide an incentive for the production of serviceable fabrics containing Avisco fibers, the Avisco Integrity Program was set up.

Results have been gratifying. Already 56 important converters and finishers have become licensees. Millions of dollars' worth of national magazine and TV advertising has been telling the public what the Avisco Integrity Tag means to them—how it protects and guides them. Retailers have tied in enthusiastically. *Everyone* profits!

We bear the full cost of both testing and national advertising. The rest is up to you. To qualify for a tag, fabrics must meet these tests:

Breaking and bursting strength
Yarn slippage
Colorfastness . . . Laundering 160° F.
Crocking
Sunlight 40 hrs.
Atmospheric fading
} A.S.A.-L22

Chlorine retention . . . AATCC Test 69-52, not more than 25% loss in strength. No appreciable browning.

Shrinkage in laundering (2%) . . . Federal Specs. CCC-T-191a (Cotton Method).

Breaking and bursting strength
Yarn slippage
Colorfastness . . . Laundering 105° F.
Perspiration
Crocking
Sunlight 10 hrs. (40 hrs. sptswear.)
Atmospheric fading
} A.S.A.-L22

Shrinkage—(2%) . . . Coml. Standards CS 59-44. Textiles Testing & Reporting (Dept. of Commerce).

Breaking and bursting strength
Yarn slippage
DIMENSIONAL RESTORABILITY
Colorfastness . . . Cleaning dry and wet
Perspiration
Crocking
Sunlight
Atmospheric fading
} A.S.A.-L22

(All foregoing tests apply to woven fabrics. Similar tests for knitted fabrics.)

For further details, call LA 4-7200 or write American Viscose Corp., 350 Fifth Avenue, New York 1, N. Y. We will send you a copy of the requirements and Confirming Order Form. You return completed form with fabric sample of each color in each dye lot. We test these in our labs, and if they qualify we send a licensee agreement certificate to you, and garment tags to your cutters. Cutters affix the tags, retailers display them and consumers *buy*.

ing for one hour with 50 cc of 5% alcoholic potassium hydroxide. Add 40 cc of water. (If the material is more than half fats, use 70 cc of alkali solution and 55 cc of water.) If at this point no oil separates, there may be no unsaponifiable matter present. Extract thrice with 50 cc of low-boiling petroleum ether, washing the extracts with 50% alcohol. Evaporate the solvent on a steam bath to practically constant weight as before. Calculate percentage unsaponifiable matter.

Acidify the alcohol-water solution with hydrochloric acid. Extract with petroleum ether as described previously, evaporate solvent, and weigh. Calculate percentage of saponifiable matter.

Further investigation of the fats, oils, and waxes is extremely difficult technically. The Hanus value, acetyl value, Hubl number, Valenta test, Maumene test, Elaidin test, saponification number, specific gravity, and refractive index are some of the tests which could be made. Even with all these tests, however, exact identification of the components of a complex mixture is practically impossible.

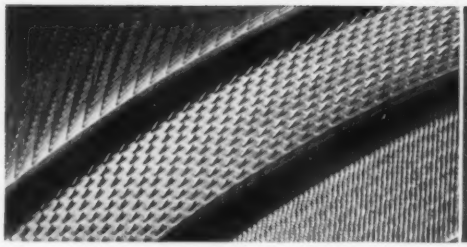
Test for Inorganic Materials. Two samples should be hydrolyzed as given for fats, one with sulfuric and one with hydrochloric acid. The former may be tested for chlorides, the latter for sulfates, phosphates, and any other negative ions whose presence is suspected. For the usual tests, it is best to dilute the hydrochloric acid solution to 100 cc in a volumetric flask, and take portions for testing for both positive and negative ions. Aliquot portions may be taken for quantitative analysis.

The usual analytical methods are used on this solution, taking into account possible interference from the starches, gums, and their hydrolytic products which may be present. Also, it should be made certain that any sulfonic acids which were present have been completely decomposed.

Starches, Dextrins, and Gums. The chemist who has not had much experience with these materials is well advised to leave them out of his system of analysis, and to assume that the difference between what he finds of fats, moisture, inorganic materials (ash), and 100% is "starches, starch gums, or natural gums." This, of course, will not be highly accurate. Where it is certain that natural gums are not present, the method given as follows will give fair results for the total of starch, dex-

The separatory funnel is used in the process of separating saponifiable and non-saponifiable fatty matter.

Removing an aliquot sample from a volumetric flask by means of a pipet.



Ashworth Tips ON CARDING

No. 35 in a Series

SURFACE GRINDING

In spite of all that the manufacturer of the card can do to prevent it, distortion of cylindrical castings — such as those that become cylinders, doffers and lickerins on cotton cards — does occur in some instances, and to a greater or lesser degree, over the years that the card is in operation. The utmost precaution is taken to age these castings properly, and in the machining of them painstaking care is exercised to assure that they will be circumferentially true. There are times, however, when certain castings stubbornly refuse to be "at rest"; and in many instances the mill is unaware that they have "worked" and their perimeter is no longer a true circle.

In Tip No. 31, published in July, 1956, mention was made of mills adopting the grinding of bare doffers as a standard practice prior to the application of new card clothing. It is equally important that cylinders be checked before they are reclothed to determine whether internal stresses have made surface changes, either in contour or concentricity, and surface grinding is required. Serious jams, incidentally, have been known to effect such a change in a cylinder's surface as to make grinding imperative.

Although card clothing installed on a cylinder or doffer that is out-of-round can be ground ultimately to a true circumference, it may be only through excessive grinding that this is accomplished; with the possible result that the wire becomes fatigued and susceptible to early "shedding". If "shedding" or "shelling out" does not ensue, more of the usable length of the teeth is ground off than would be the case if the roll was not in that condition. In extreme cases, the wire has been pushed under the foundation on the high side of an out-of-round cylinder, presenting an appearance similar to that of a raised fillet.

An effective method whereby an out-of-round or otherwise distorted cylinder or doffer may be readily detected is by means of checking with a dial indicator. The extent to which a correction, if any, should be made is at once apparent and the progress of the surface grinding can be measured from time to time as it advances.

Mills intent upon maintaining their cards in the best possible condition, in getting the utmost in quality from their card clothing and, quite possibly, adding to its life, as well, will find it well worth while to check the surface condition of the cylinder and doffer whenever new clothing is about to be installed and to surface grind these members of the card if this procedure is indicated.

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Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

trin, and starch gums. Sugar, if present, will also be included, as the method is based on conversion of starch to sugar. If starch or dextrin is present, the original compound will give a blue or purple color with iodine solution.

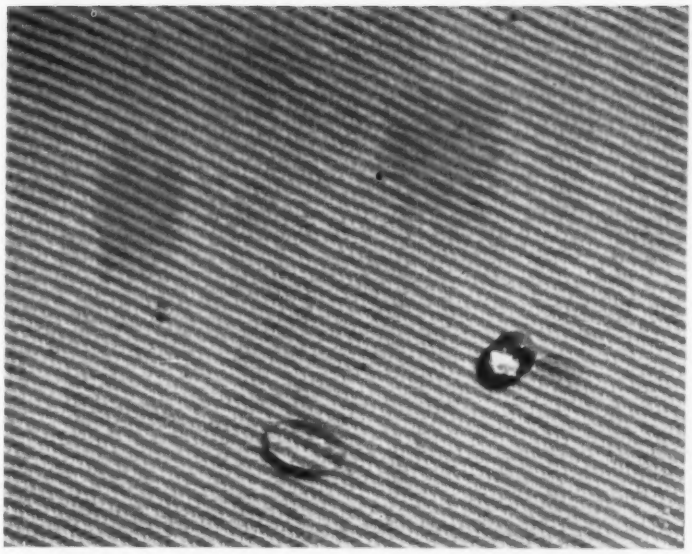
Boil 10 grams of the sample with two grams of paraffin wax and 200 cc of 4% HCl under reflux for three hours. Allow to cool, when the cake of fats will be easily removed. Wash the solution into a 250-cc volumetric flash, neutralize using litmus paper indicator, and make up to volume. Pipet exactly 10 cc of standardized Fehling solution "A" and 10 cc of Fehling solution "B" into a round bottom flask.

From a buret add a quantity of solution to be analyzed not quite sufficient to use all of copper and boil for two minutes. (This is most conveniently calculated by estimating starch by difference.) Add one drop of methylene blue, and then a small additional amount of the solution, boiling again for a half minute.

Continue adding solution and boiling until the color change is obtained. This will give the number of cc of unknown which contains an amount of starch equivalent to 10 cc of Fehling solution, from which the amount of starch in the original sample can be calculated.

The Fehling solution is made up in the usual way for determination of reducing sugars, and standardized against dextrose. Its starch equivalent will be equal to its dextrose equivalent multiplied by 0.9. The accuracy of this method is dependent on a number of variables, including the total volume of the reacting solutions. Standardization should therefore be made against a 0.1% dextrose solution, so that the concentrations will be approximately those encountered in the usual analyses.

Test for Penetrants. Before testing penetrants, it must be decided just what properties are desired from the penetrant. In sizing, a penetrant may be desired for its original wetting action, or for its rewetting ability. Wetting ability may be tested by the Draves test for wetting time given in the 1955 Yearbook of the American Association of Textile Chemists and Colorists. [It measures the time required for a standard skein to sink in a solution of wetting agent when the skein carrying a standard weight is held below the surface of the wetting solution by an anchor. See illustration on page 202 of TI for October, 1956.—The Editors]



Rewetting test showing droplets of water before and after absorption into the cloth.

However, some penetrants are more effective in cold water and others more so in hot water. Since hot water will itself wet cotton or rayon very rapidly, the evaluation of a penetrant for use in hot solutions becomes a more complicated technical problem than we wish to cover here. Also the presence of other sizing ingredients will affect the action of the penetrant.

A standard method for testing for the rewetting power of surfactants is given in the AATCC Yearbook. It consists of treating cloth with the amount of surfactant that it is contemplated to use in practice, drying the cloth, then measuring the number of seconds required for a drop of distilled water to be absorbed into the cloth. It should be noted that the results of such a test will be materially affected by the presence or absence of size on the goods before application; on the construction and weight of the cloth; and on whether or not other materials are applied along with the rewetting agent. For proper comparison, it is absolutely necessary to hold these factors constant.

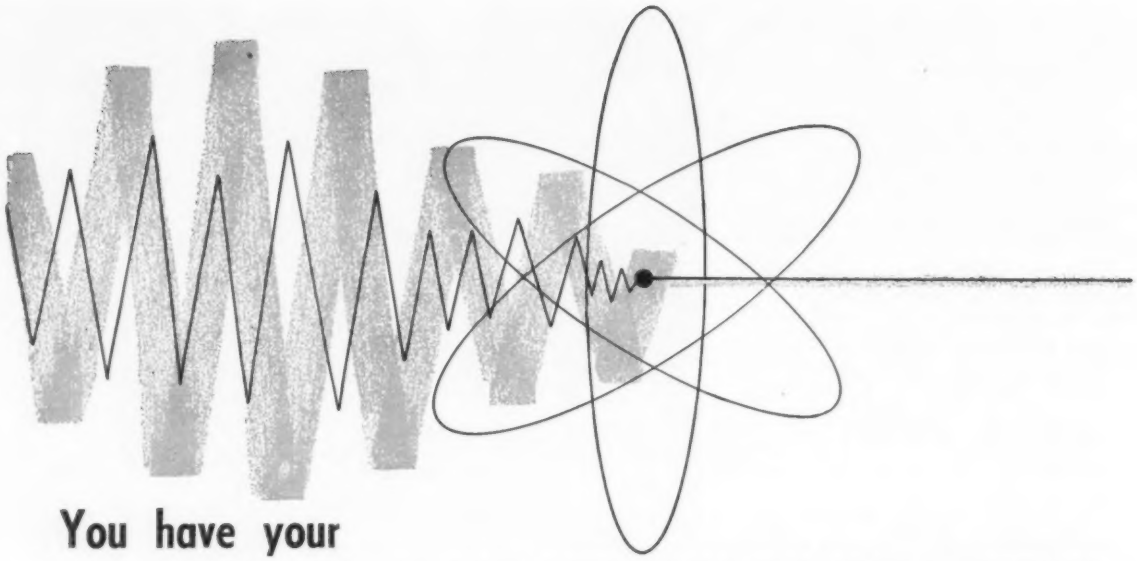
Similar complications are encountered in testing for foaming properties. Some penetrants may cause excessive foam, but this can be tested properly only in the size box.

Penetrants for other uses must undergo a wide variety of tests: anti-rusting properties, foaming or anti-foaming as desired, mildew resistance for some purposes, compatability with hard waters, and other materials encountered in textile processing, etc. For filling conditioning, they must also not attack the varnish on bobbins, nor have an excessive swelling effect on the wood.

Sulfonated Products. Complete methods of analysis for these ma terials are given in "Sulfated Oils," bv Burton and Robertshaw, Chemical Publishing Co., 1940; and in "Analytical Methods for a Textile Laboratory," compiled and published by the American Association of Textile Chemists and Colorists.

Water Analysis. Complete methods for water analysis are found in most standard tests on chemical analysis.

(Continued next issue)



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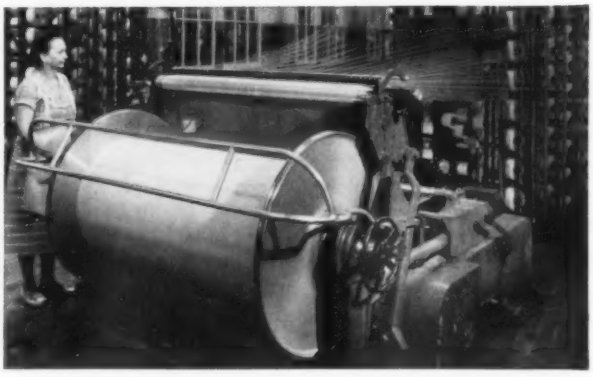

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"Import threat no mere phantom"

Presidential assistant Sherman Adams outlines Administration policy to NTA

Staff report

THE 102nd Annual Meeting of the Northern Textile Association was held on September 27-28 at Wentworth-by-the Sea, Portsmouth, N. H. Highlight of the meeting was an address by Sherman Adams, assistant to President Eisenhower, outlining the administration's position on Japanese imports.

Lawton S. Brayton, treasurer of Sagamore Mfg. Co., Fall River, Mass., was re-elected president of the Association. Chosen vice-president were Malcolm G. Chace, Jr., president, Berkshire Hathaway Inc., who was re-elected; and Edward J. Russell, vice-president, Troy Blanket Mills, Troy, N. H., who was newly elected.

Saul Greenspan was elected director for one year; Lindsay Dextex, Wm. H. Hubbard, Edward P. LeVeen, Jr., Frank W. Layman, and Seabury Stanton were elected directors for a term of three years.

W. F. Sullivan continues as counsel and as administrative head of the Association's activities.

The Northern Textile Association became the official name of the old organization, The National Association of Cotton Manufacturers. By changing the name, the continuity of the old organization, founded in 1856, will be preserved and reshaped to meet conditions and needs of the industry today.

In the opening address of the session, President Brayton welcomed approximately 400 members and guests, including many from the South and Canada.

Mr. Brayton reported on the progress that had been made by the Association in securing freight reductions on cotton shipped to New England mills, citing the cooperation of friends in the industry, both in the South and in Canada. Some success was also achieved, he said, with the flood problem in New England with the passage of a flood insurance plan at the closing sessions of Congress.

In closing, Mr. Brayton described the functions of the NTA, which now has members from all branches of the industry. In addition to offering information of interest, it also offers an effective instrument by which its members can attempt to get legislation necessary for their welfare.

Secretary Sullivan then spoke to the members, outlining the problems facing the industry and stressed the need for a unified action.

"While the production index for this whole industry has advanced only 6% in ten years," he said, "the index for all manufacturing has increased 40% or 6½ as many times. Consumers are spending 73% more.

"During this ten-year period wholesale prices of manufactured goods have *advanced* 27%, but in this industry prices have *declined* 5%. Is it any wonder that between 1947 and 1955 profits after taxes in this industry actually *fell* 53% while profits for all manufacturing industries *increased* 49%?"

Mr. Sullivan stated further, "It is time for an industry employing a million people in 27 states to undertake a unified program for the total textile industry."

It is essential, Mr. Sullivan went on, that each branch of the industry be properly organized. For that reason, a group of independent New England wool manufacturers, members of the Association, formed a separate autonomous Wool Council within the Association to achieve more effective unity.

"Even when the problem is not common to all," Mr. Sullivan said in concluding his statement, "we know that by joining forces with those who have naturally similar interests, namely, textile manufacers, we can bring greater force to bear to solve not only the problems common to all, but the problems peculiar to each."

AS CHAIRMAN of the National Committee of the NTA, Seabury Stanton described the gravity of the low cost import problem and traced the efforts that had been made in dealing with this problem which faced industry, both North and South.

"During the first six months of 1956, the Japanese were exporting velveteens to the United States at the rate of 65% of the American market, and ginghams at the rate of 38% of the American production," he said, in pointing to the concentrated imports.

Mr. Stanton stated further that, while it is the government's policy to share markets with other countries in the hope of raising living standards, the proposed sharing of markets "must be controlled and so diversified that no industry and no branch of any industry will be unduly affected."

In seeking a solution to the import problem, Mr. Stanton and Robert T. Stevens, president of J. P. Stevens & Co. and former Secretary of the Army, conferred with Sherman Adams and others. Subsequent conferences took place with Administration officials, at which J. Craig Smith, president of Avondale Mills and Chairman of the ACMI Foreign Affairs Committee, was also present.

Mr. Stanton cited Mr. Adams' personal interest in this problem and indicated that progress had been made and that the industry has cause to feel encouraged.

"If, on the other hand, this matter cannot be resolved satisfactorily with the foreign countries involved," Mr. Stanton said, "it will

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be necessary for the industry to request the Congress to establish legislative quotas when it convenes again next year."

In closing, Mr. Stanton said that a solution to the import problem "will lift the pall of fear which has been hanging over our industry for the past two years."

SHERMAN ADAMS opened his address by stating that it was in our self-interest to promote the continued growth of trade between nations.

However, the Administration recognized the problem of low cost imports and undertook to find a solution with representatives of the Japanese Government. As a result, a comprehensive plan has evolved and has been communicated by the Japanese Government to the Secretary of the State.

Mr. Adams outlined the principal features to be incorporated into this program for 1957, and in subsequent years:

(1) The initial ceiling of exports of cotton cloth, cotton apparel, and other cotton manufactures will not exceed the level of trade during 1955.

(2) Within this ceiling, subsidiary ceilings will be established, in addition to those already established, for such items which may tend to be exported in excessive concentration, where such exports may cause undue hardship to any particular segment of the textile industry of the United States. The Japanese have represented to us that velveteens and ginghams, among other items, will be the subject of special study for further reduction.

(3) Efforts will be made to distribute exports equally by quarters so far as practicable, modified only as may be necessary to meet seasonal demands for special items.

(4) This arrangement, which will become effective January 1, 1957, will remain effective for an indefinite number of years, but may be reviewed annually.

In concluding, Mr. Adams said, "The reluctance of manufacturers to expand and modernize, and the reticence of investment houses to arrange financial facilities should be dispelled."

Harold C. McClellan, Assistant Secretary of Commerce for International Affairs, then spoke briefly, urging that Washington be kept adequately informed of the industry's problems and objectives. He said the Japanese believe mutual understanding is necessary and the United States has invited them to come up with something definite in the way of a plan.

Mr. Stevens also spoke, pointing out that there were many difficulties in trying to find a solution to a problem such as this one. He urged the industry to join ranks and get behind the new program, which will go into effect the first of next year.

Machinery for producing nonwovens

by Harmon B. Riehl
Proctor & Schwartz, Inc.

Abstract*

● IN THE older nonwoven products, like wool felts and glazed wadding, carded webs were used, either in cross-laid arrangement or straight out from the doffers of the cards, in single or multiple layers. For some nonwoven products, these methods and machines are still used, and will continue to be used because they produce certain definite characteristics required in some end products.

Many nonwoven products, on the other hand, require an unoriented arrangement of the fiber. This can be obtained very readily by the several means used to remove the stock from the card, garnett, Rando-Webber, or other machines used to separate the fibers before the web is formed. Whichever final arrangement is used, it is important that the fiber bundles be well separated into individual fibers. This usually requires precarding or garnetting, unless an opening arrangement is built into the web-forming apparatus.

In recent years, garnett machines and metallic-clothed cards have been found best for these purposes. It has also been found advisable to use a double process of carding or garnetting, so that an even feed is assured across the face of the secondary or finishing machine.

Another reason for double carding, aside from the required evenness, is the ability to get more complete opening and a better distribution of the fibers, especially when waste materials are used as part of the blend.

The machinery required to prepare the various fibers and waste materials suitable for web formation must be chosen with a view of opening any fine-denier synthetics without undue fracture of the staple length, and preventing of nep formation. Reprocessing pickers, shredders, and garnett machines of various types are used on most of these waste materials, and blending units are necessary in the making of the mixes required.

When fiber length is a factor in determining the characteristics of the final nonwoven product, it is important that equipment be chosen which will blend effectively the long and the short fibers.

The garnett machine may also be used as a lap-making unit, to produce laps for feeding to cotton cards, Rando-Webbers, or any other machine which may be doing the final web making. However, the trend is away from lap-fed web-making toward a continuous line of carding units, in which the preliminary garnett is connected through an intermediate feed to the finishing web-laying unit. The various machines are set in line in the interest of uniformity, for reducing the required labor, through automatic transfer between units. Even feeding insures a uniform discharge across the full width of the finishing unit. The finishing unit may be any width required, up to 100″ or more, which cannot be duplicated any other way.

The delivery side of the final machine may produce webs to be cross-laid, or the webs may be carried straight out from the doffers. Where an unoriented lay-up of fibers is preferred, the carded fibers are taken from the machine and delivered by means of one of

*Presented at the September 12, 1956, meeting of the American Association for Textile Technology, Inc.

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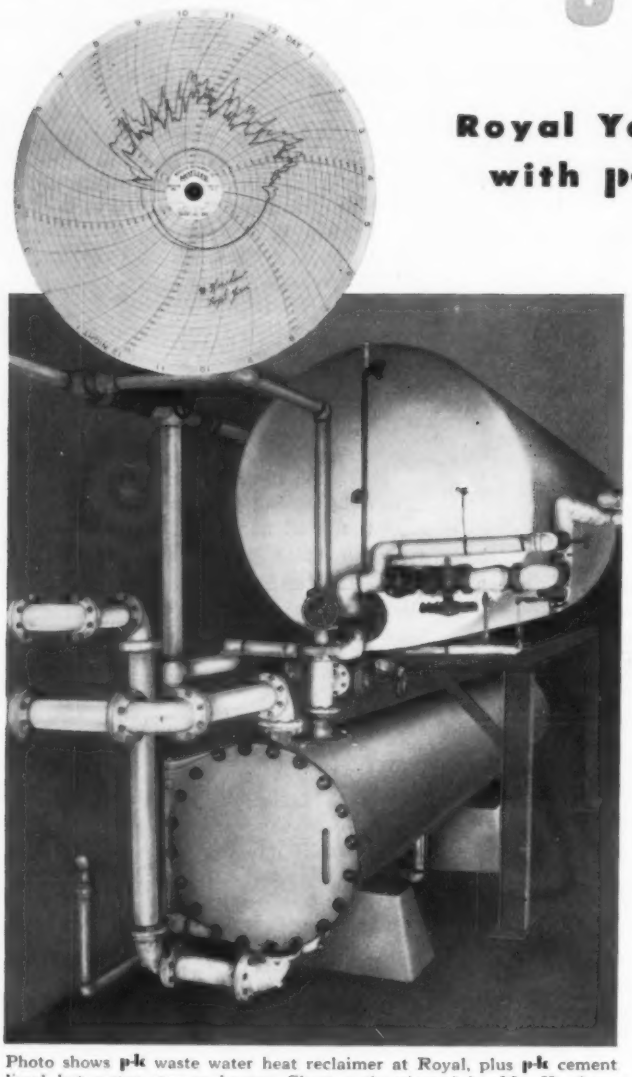

Photo shows p·k waste water heat reclaimer at Royal, plus p·k cement lined hot water storage heater. Chart authenticated by Mr. Kershaw, shows typical twelve hour day operation. Incoming city water is heated from 48° to 105°, without cost by the p·k waste water heat reclaimer.

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several air-transfer devices against a screen, apron or perforated drum, on which the web of fibers is built up in an even, continuous sheet, provided, of course, that an even layer of the stock went into the finishing unit. The sheet of fibers so delivered is stripped off the screen and is conveyed directly to the apparatus used for applying the binder or bonding agent.

With wet-bonding processes, there must follow a drying operation, using either a circulating air system or carrying the web onto a series of heated revolving drums. The type of finish required will determine the most suitable type of drying machinery.

If thermoplastic fibers are used as a binder, these fibers are blended with the regular fibers or may be placed on the face of the web to make a surface coating. The webs from the final web forming unit are then carried directly to heated rolls or other heat and pressure devices.

Webs for insulation pads and cushioning or packaging materials are processed as above, but are bonded together with a powdered resinous binder blown in or sprayed on the batt before it enters the oven.

When latex or other rubber materials are used for bonding, a curing or vulcanizing may need to follow the initial drying.

Nonwoven fabrics

(from page 98)

en fabrics have in the main been supplying what might be termed a grey fabric.

In view of the unusual properties of most nonwoven fabrics, conventional finishing methods are seldom applicable. The proper utilization of nonwoven structures depends to a large degree on finishing methods yet to be developed.

NOW AS to the future of nonwoven structures, there is much development work to be done in the fiber manipulation of web formation, and in bonding techniques, new bonding materials, etc. Finishing must be developed and no doubt will be forthcoming. There must be continued consumer education in the form of advertising and promotion as well as customer education as to the merits of the materials themselves.

Proper styling of end products is of course a must. If the end use is apparel, either outerwear or interfacing, attractive patterns must be provided. Perhaps the most important phase of styling is that of avoiding misapplications. Nonwoven structures when properly used do a more than satisfactory job; however, they are far from the answer to every problem and must not be construed as such.

The industry's consumption of forty to sixty-five million pounds of fibers in 1955, based on estimates made by several people who have conducted inquiries in recent months, indicates what has been accomplished by a nonwoven industry in the last 15 to 20 years. A tremendous effort is being applied to the industry today as compared to the relatively small effort that was being applied only 5-10 years ago.

Treasure hunters

(from page 105)

latitude in interpreting his own technicalities, he soon winds up with a handsome bill to be presented to the harried taxpayer.

The actual amount of money demanded can be arrived at scientifically in several different ways. One simple but effective method is for the treasure hunter to close his eyes and run one finger down the column of a telephone directory, and then look to see the number over which his finger stopped. If it is over two or more numbers, the proper one can be chosen by reference to a Table of Weighted Coefficients.

To illustrate: Suppose one number was Bureaucracy 1-0026 and the other one was Gestapo 8-9875. The taxpayer's records after three or four days of diligent search have disclosed the fact that his net worth is minus $3824.60. (This figure should properly be printed in red, but that would cost more and some technicality beagle descending on this magazine might decide that this was an unwarrantable expense and not a suitable deduction as a proper cost of doing business.) And he has $3.17 on deposit in his bank.

According to the regulations for using the Table of Weighted Coefficients, this case clearly is covered by Bureaucracy 1-0026, and since it is highly desirable from a psychological standpoint for treasure hunters not to be too hoggish, the necessary forms are made out to refund to this taxpayer $1.00. If the number had been 1-0062, the lucky taxpayer would have got $1.01.

The next case turns up a taxpayer who has no assets and no liabilities and no bank account. This was such an incredible and wholly un-American situation that the technicality beagle spent a whole week looking for hidden assets or some unreported installment obligations. There would obviously be no future for the Treasury Department in cases of this sort; but after all, the beagle has put in a week looking for money, and the BIR has to have something to show for its efforts. Therefore this chap is soaked $1.00.

As the liquidity of the taxpayer improves, the Table of Weighted Coefficients provides for moving the decimal point farther to the right. For highly solvent taxpayers, the Gestapo number would apply. A man with an income of over $50,000 a year might be billed for $8,987.50, while one of those legendary Texans with several million dollars' worth of oil wells might get a request for $89,875.00.

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ability to pay, which is the very cornerstone upon which our graduated income tax system rests. There are doubtless other scientific methods which could be employed just as usefully, and embody the same general principles.

When the bill is presented to the taxpayer, he naturally hasn't the foggiest notion of how the treasure hunter arrived at the particular amount of cash demanded, but he does note that on the demand for the cash he is advised that if he so wishes he is entitled to an informal conference between himself, the treasure hunter, and an upper echelon member of the Treasure Hunting Department. This informal conference is not, as many taxpayers believe, an invention of our Bureau of Internal Revenue to see that the citizen gets an absolutely impartial hearing.

The informal conference has been in vogue for centuries. The MVD holds thousands of them every day, and in Hitler's heyday the Gestapo was busy with them from morning until night.

The informal conference was brought to a very high pitch of perfection about 500 years ago by that distinguished Spanish gentleman, Tomas de Torquemada. Whether he really originated anything or merely worked out a highly efficient application of the principles of the informal conference, we do not know, but his methods have been practically standard ever since.

The principal purpose of the informal conference in Torquemada's time was to convince the conferee of the utter futility of presenting his side of the argument to any formal tribunal. Under the persuasive eloquence of Torquemada's agents, hundreds of thousands of persons charged with violating some technicality of a frightfully complex and esoteric system would cheerfully admit they never heard of the thing they were charged with, and couldn't understand it anyway, and agree about the hopelessness of trying to argue successfully with an inquisitor. These people were then informally dispatched to the stake, the gallows, or the rack, as the technicality in question seemed to indicate.

Torquemada thought so highly of his work that his organization was known colloquially as the Holy Office, its full title being The Congregation of the Holy Office. Today, with our proclivity for using initials, we would probably call it CHO.

One of the most important functions of this organization was the same as that pursued by our own domestic Gestapo today—the use of technicalities to make possible the confiscation of money. While presumably Torquemada was primarily interested in the pleasing odor of burning heretics, he and his inquisitors had a sharp eye for any property these people possessed; and while our modern system has discarded the rack, the gibbet, and the stake, the modern inquisitor has lost none of the old evangelical fervor about the money.

OF LATE YEARS the Russians have placed a great deal of dependence on the informal conference. When tough old Bolsheviks appear in open court and plead guilty to all sorts of crimes that everybody knows they never thought of committing, it can be assumed that they have been attending informal conferences.

Any taxpayer who follows his technicality beagle into one of these informal conferences is soon likely to have brought home to him the truth of one of the ancient maxims of beagling—"The dogs never side with the rabbit."

Two great civilizing forces are gradually edging us down the road to the perfect bureaucratic world. The labor unions on one side are conditioning people to accept regimentation and control of their affairs. They are told where they can work and who they can work for and when they can work. They are also told whom they can't work for and when they can't work.

On the other hand, the treasure hunters are accustoming people to the idea of meekly paying out some of what they earn—when the labor unions let them work—according to the estimate made by the treasure hunter on the basis of calculations determined by some bureaucrat in Washington.

You can't quickly accustom a people steeped in the traditions of freedom to accept Gestapo methods, but it can probably be done slowly if the proper steps are taken.

Japanese industry

(from page 107)

THE AMOUNT of labor required to clean machinery is 40% of the total work done by employees. The adoption of automatic continuous cleaning attachments on the cards and pneumatic clearer attachments on the spinning frames is increasing. The former is used on 12.5% of the total cards; the latter on 65% of the total spinning spindles.

Overhead traveling cleaners are used on 9% of the total spinning frames. The use of compressed air to clean the ceiling and sections of machinery, and the use of the roll-picker are increasing.

High speed and automation have been largely supplied by imported machinery to this date, but Japanese machinery makers are now able to make some of the high speed and automatic machines.

Model J combers are still being imported and the total number of sets at the end of 1955 was 22. Japanese combers are becoming higher speed, too. The number of automatic spoolers was 29 and high speed warpers was 21 at the end of 1955.

After many studies, synthetic rubber rollers have begun to be used since 1954. In 1955, 61% of the total rollers were made of synthetic rubber. 10% of the total are rubber aprons, but this problem is left for future study.

As quality control progressed, statistical control methods became necessary. In 1955 the use of such operational controls continued to increase from the previous year.

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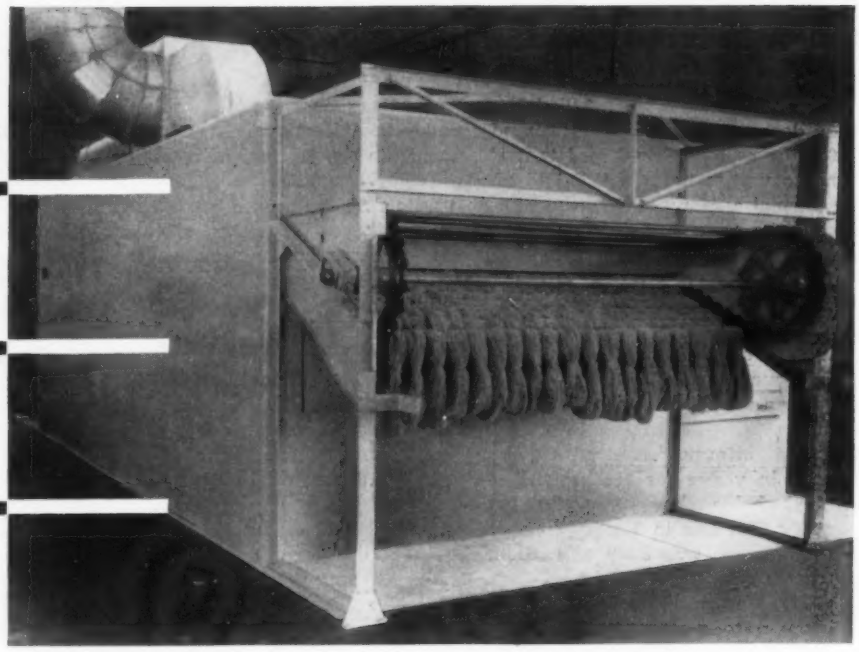

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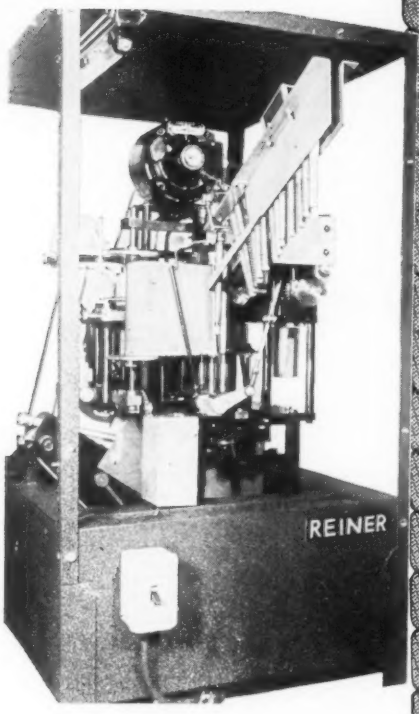
QUILL REFINISHER AND DEGREASER



Entirely new in concept—this compact, space-saving (3½ ft x 2 ft), precision built Reiner Quill Refinisher can handle 30-35,000 cleaned or polished quills a day—at practically no expense and without any additional labor cost. IT PAYS FOR ITSELF IN ABOUT 10 WEEKS.

Production-tested to run at a capacity of up to 23 quills per minute, the Reiner Refinisher employs a 3-station processing cycle which provides thorough cleaning of quill grooves and gives a highly polished surface without the use of harsh abrasives. Quills last longer, and there is a material reduction in broken or tight picks, split or fuzzy filling which means more profitable, uninterrupted loom production.

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Knitting Section

Standardize machinery maintenance, tensions, etc., to give

Uniform full-fashioned lengths

by R. D. Brackett
Exclusive

LENGTH CONTROL is an important factor in the manufacture of full-fashioned hose—all plants have some method of maintaining uniform lengths. There are numerous methods being used to determine the variations of any individual heads or sections on the knitting machine.

I do not propose even to attempt to suggest or recommend any specific method of determining these variations in this article. I realize that the method used must be chosen by the individual plant manager to best serve the purpose in his situation. I intend to deal only with the corrective measures that should be made on the machine.

First let us take the over-all length of the stocking from an individual head that is running too long or too short. Before making any adjustments to the machine, be sure that the yarn is properly threaded and that all eyelets and rings through which it runs are clean.

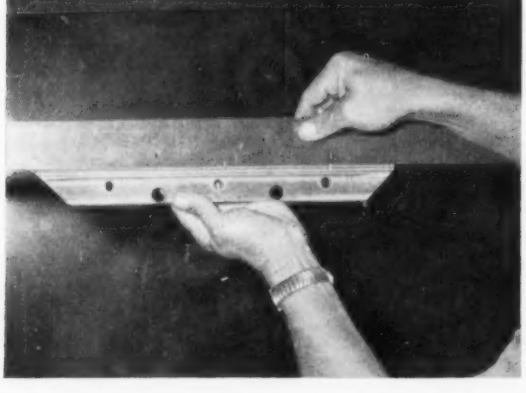
Pull the yarn through the carrier to determine if the tension is uniform with the other heads. Now exchange the yarn from this head with the yarn from the next head.

Variation in length is often caused by the yarn, and it has been found that there may be a pirn or cone of yarn which will cause one head to knit tight or loose. By switching the yarn to another head it often will knit uniformly.

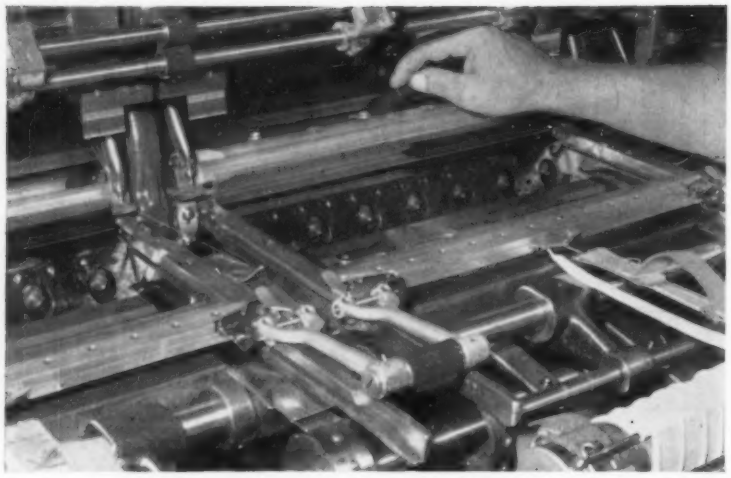
After these steps have been taken, measure a stocking blank from each of the two heads.

Now let us assume that the head in question is still knitting as it was in the beginning. We have determined that the trouble is not in the yarn or its threading. There-

Bent or curved verge plates will not permit uniform knitting. Use a straight edge to make sure these members are straight.



Use the standard gauges made for squaring the verge plate; be careful not to spring the verge plate to the gauge.



Maintain as closely as is possible a clearance of 0.002" between the verge plate and the sinker butts. Result: every head operation to length tolerances.

fore we must make some adjustment to the head itself.

With about two inches of sinkers slurred forward on one side of the head, check between the verge plate and the sinker butts that are being held by the slur cam to be sure of the proper 0.002" required there; and then check the other side of the head in the same manner. (This 0.002" clearance should be maintained as closely as possible at all times to insure quality knitting and proper functioning of the machine.)

After these steps have been taken any further adjustments needed must be made on the needle bar by moving the adjustment screws on the bottom of the needle bar fork.

NOW LET US take up crooked heads or heads that are knitting either too tight or too loose on one side. First, with a straight edge make sure the verge plate is straight. Put the verge plate on and square it by using the gauges provided for this purpose.

Do not apply pressure on one end of the verge plate and spring it to gauge, since this will cause a bow in it that will result in uneven stitches on the head.

Now check for the 0.002" clearance between the verge plate and the sinker butts. Should the clearance be more or less than 0.002", but is the same on both sides of the head, make adjustments on the slur cam to get the 0.002" clearance.

Should the clearance be more or less on one side of the head, correct it by moving one side of the jack head either in or out, whichever the situation demands. Do not move the verge plate to get the proper clearance.

Now have the stocking blank measured. Any further adjustment needed to straighten the head should be made by moving one side of the needle bar either in or out on the needle bar hinge.

A needle bar should never be moved to square up a head until all other steps have been taken. This is especially true on an automatic welt turning machine.

NOW COME crooked heels. Sometimes a head is knitting straight and the over-all length is good, but one side of the heel is either too tight or too loose. Again go back to yarn and threading. Switch the two cones of splicing yarn and check the threading and tension. Crooked heels almost always are caused by these two things.

Often it is necessary to thread certain heads differently from the others because of a friction, pointex, or other obstructions that might hang or break the yarn. In these instances it may be necessary to balance the tension on both splicing yarns in order to get even heels.

It is of course best to keep all heads threaded as nearly alike as possible. Sometimes a crooked or improperly cut verge plate or improper alignment of the needles will be the cause of this trouble, but these cases are rare. As long as the boot is knitting evenly on both sides it is best to try and get even heels by adjusting the tension on the splicing yarn; but still keep the threading of the splicing yarn as uniform as possible.

If the above procedure is followed it will eliminate a lot of defects and trouble in future knitting. A fixer will often move a verge plate off gauge, tighten or loosen a slur cam, or move a needle bar without checking the entire head when squaring it up. This can have any number of consequences, and often can seriously damage the head.

A slur cam too tight can damage the jack head and the slur cam. A slur cam too loose can cause sleazy stitching and cut holes. A verge plate off gauge can cause the catchbar to jump. A needle bar in or out on one side of the head can cause cut holes, menders, hook up or welt turning trouble, and numerous other defects.

Oftentimes a head will knit perfectly for some time after improper adjustments have been made before it gives trouble; or it might make only one or two defects a day.

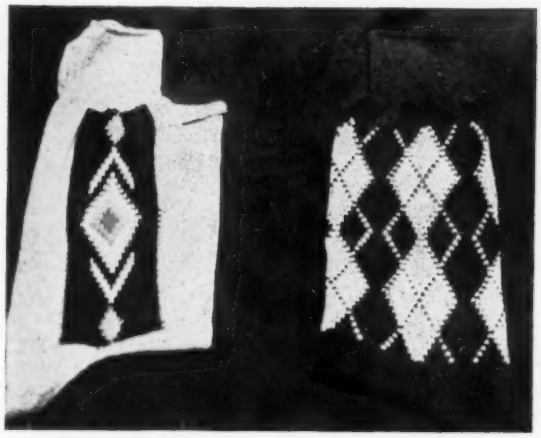
The fixer will probably waste a lot of time and parts, putting in needles points, knockover bits, or sinkers and dividers before he discovers that the entire head is out of adjustment.

Then after all of this unnecessary waste of time, parts, and yarn, he will have to go through the procedure above to eliminate the difficulty.

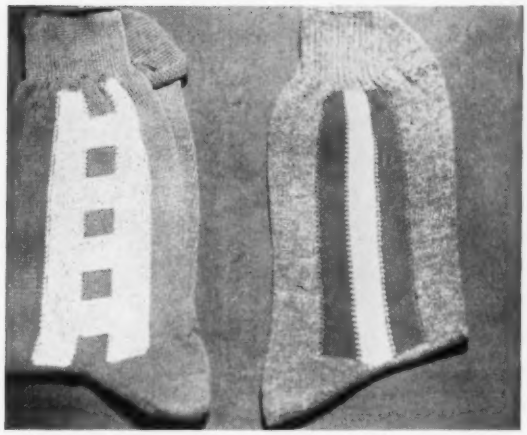
The procedure is simple and only takes a few minutes to go through.

In plants where test sets are run through on a regular schedule it is seldom that more than two or three heads need adjustment at one time.

Length control should be assigned to one man. Any length-affecting adjustment that anyone else makes to a head or machine should be called to his attention at once.



1. Sock with inlaid pattern on left; right, pattern embodying both flat knit and floats.



2. Socks with SCP or SCOP vertical patterns. Left, with color changes; right, without.

Some tips on the amount of information a person must have to do

Pattern design for Banner knitting machines

Part 1

by Winston Shewmake
Exclusive

PATTERN designers are becoming more in demand every day. Patterns are selling socks, and manufacturers are looking for men who can originate and draw designs and layouts, and build a sock around them.

A mill copy of something which has already been produced by another firm immediately places the mill in second place. Second place often means "no place" in today's competitive markets. A plant must have original "firsts" in designs to stay in the running.

There are many fixers who fix on batteries of Banner SCP and SCOP machines. Simplicity of detail makes these machines easy to understand.

There are also quite a few fixers who can copy or follow a layout or design which someone else has drawn, but few fixers can originate and draw a design layout from start to finish — especially on some of the newer illusion and inlaid SCP and SCOP patterns.

Some fixers, even when given the opportunity, do not want to try to learn layout and design. Why? "Because it just looks too complicated." Others who would and probably could learn never had time or opportunity to have a competent instructor teach them.

Let's face facts! Patterning *is* complicated. A diligent and systematic study of the subject doesn't make it simple, but does make it much less complicated.

THERE ARE FOUR BASIC requirements which a solid color pattern sock designer and set-up man should possess:

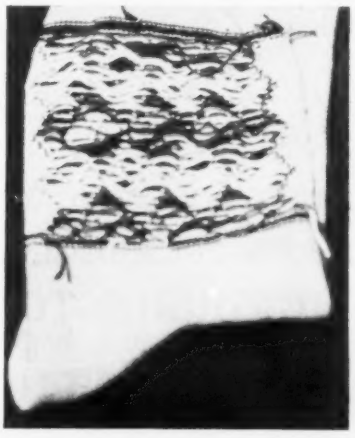
1. A basic mechanical knowledge of the knitting machine. This knowledge should come from experience acquired while working on the machines, and from the advice of an expert. A good fixer may easily attempt to design after he has had between three to five years experience as a battery fixer.

2. An understanding of terms related to knitting and to patterns in general. (See list [on p. 137] of terms and definitions.) Familiarization with these definitions is important.

3. A knowledge of names and function of the machine parts; not only the names listed in the catalogue, but also the names of assemblies and functions of various assemblies, linkages, and subassemblies. Names denoting functions are usually learned during the time a fixer spends or has spent fixing on a battery of machines. Special study should be given to all major patterning parts.

4. An understanding of graphs and graph interpolation. This is most important to the designer,

3. This pattern has too many floats in evidence.



SURE, HE FEELS LIKE A KID AGAIN, now that he knows where he can get any size or type of needle, with expert service, too. Yes sir, you, too, can get the finest quality needles for knitting, sewing, felting or tufting just by calling **THE TORRINGTON COMPANY.**

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for the layout is a graph; the pattern map which directs the designer's efforts into the ultimate pattern product.

THE MAIN PARTS of an SCP machine to keep in mind when drawing or setting up a new pattern are:

1. Yarn feed fingers; how many there are, and what feed arrangement will be used.

2. The number of knitting needles coming up on each side of the knitting cylinder on each cycle.

3. Jacks; their placement in the knitting cylinder, arrangement of pattern butts, and the change section of each group.

4. Jack raise cams; their place to change action on the knitting cylinder and how many are free for action on any given cycle.

5. Pattern disk; know the respective pattern drum on which each disk belongs and the number of lugs to be left on the various disks as determined from the layout.

6. Control drums; their rotation and cam control of feed fingers and cam control of jack and needle raise cams.

7. Chain; know its set-up for main drum advances, color changes, and course relationship.

Of course many other parts and assemblies must be considered before a pattern can be completed. However, these can be worked out if the basic parts listed are understood.

THE KNITTING CYCLE on an SCP machine for forming a pattern stitch or section of stitches is as follows: Yarn is dropped into the throat plate by means of a yarn feed finger which has been released by a color control cam on the control drum. Needles are then raised into this yarn for knitting by means of a stitch cam.

These needles have been placed onto the stitch cam by a selected jack raise cam; the jacks have been placed on the jack raise cam by a jack cam, which was entered into action by open lugs on the pattern disk, and released for action at the proper interval by jack control cams which are located on the control drums.

There are four similar sections on each machine; two for clockwise knitting, and two for counterclockwise knitting.

Automatic construction and function of the SCP and SCOP machines eliminates most of this cycle complexity, and only the manner in which the jacks and

A List of Terms and Definitions Commonly used by Designers of Solid Color Socks

Bank—a group of pattern parts arranged in a vertical section.

Bar—a group of jack steps which forms a horizontal line or bar in the knitting cylinder.

Binder—device used to hold yarns out of action.

Binding—holding out of action certain yarns.

Bitter-end—the end or tail of a yarn which has no means of being tied or held in place with other yarns.

Blanking—prevention by use of plain sole cams, of needles engaging yarn for knitting.

Blend—to merge one color with another.

Boost—to position or reposition needles, jacks, or other parts to a new horizontal plane.

Bracketing—placement of an outline pattern around a main or central pattern.

Braking—application of friction to a part in order to prevent coasting or firing.

Circular-run-off—to knit a fabric while the knitting cylinder is continually turning in one direction.

Color block—the disengagement of certain colors while other colors are engaged.

Contrast—the grouping of colors which are in direct opposition to adjoining colors in brightness or effect.

Eyelets — undesirable holes caused by cast offs.

Flexing—the bending of certain machine parts which cause other parts, such as cams, to engage or disengage sooner or later than would ordinarily be expected.

Floats—thread, or threads, carried across a portion of knitted fabric of which it was a part without losing control of it or shearing it before it is reentered into the fabric for further knitting.

Idling—to stop the progession of patterning parts.

Inlay block—a section of patterning parts which prevents pattern progression in certain denominations of the sock while an inlaid section, or color within three subsequent colors, is being knitted.

Interlock — pattern sections which perspectively are locked or laced within but protruding out of other pattern sections.

Juxtapose—to change or to place pattern sections closer together.

Kick—a move or advancement of pattern parts.

Lacing—interlocking floats.

Lash—slack in the machine due to improperly meshed gears and linkage.

Layout—pattern design print or drawing.

Loading—failure to cast off stitches or the continual placement of yarn into the hook of a needle without releasing that which is already there.

Multifeeding—supplying yarn onto the needles from many points around the knitting cylinder.

Over-kick or over-progression—to cause the pattern parts to progress faster by means of double moves.

Paneling—vertical pattern sections of fabric.

Pattern transposition—a change in relative positions of various pattern sections.

Placketing—slits or holes resembling button holes, used in the formation of certain patterns.

Pressing—casting off fabric from needles.

Reciprocated run-off—to knit a fabric while the knitting cylinder alternates its direction of rotation.

Reprogression—to use more than one time a certain pattern section in another plane of the sock.

Ribbing—producing a ribbed fabric by use of floats and/or tucks.

Shedding—casting off stitches from needles.

Shim—material used to build up or raise pattern and running parts of the machine.

Shog—to move into a new position, or onto another row or race.

Single feeding — applying yarn from only one point around the knitting cylinder.

Splice—uniting fabric without using knots.

Split-cam—a cam which has two or more engaging or disengaging surfaces.

Slant—a section of jack steps which forms a diagonal slant in the knitting cylinder.

Suture—the result of knitting together two or more fabric sections to form a continuous piece of fabric.

Symmetrical—equal relation or correct proportioning of similar pattern sections, or groups.

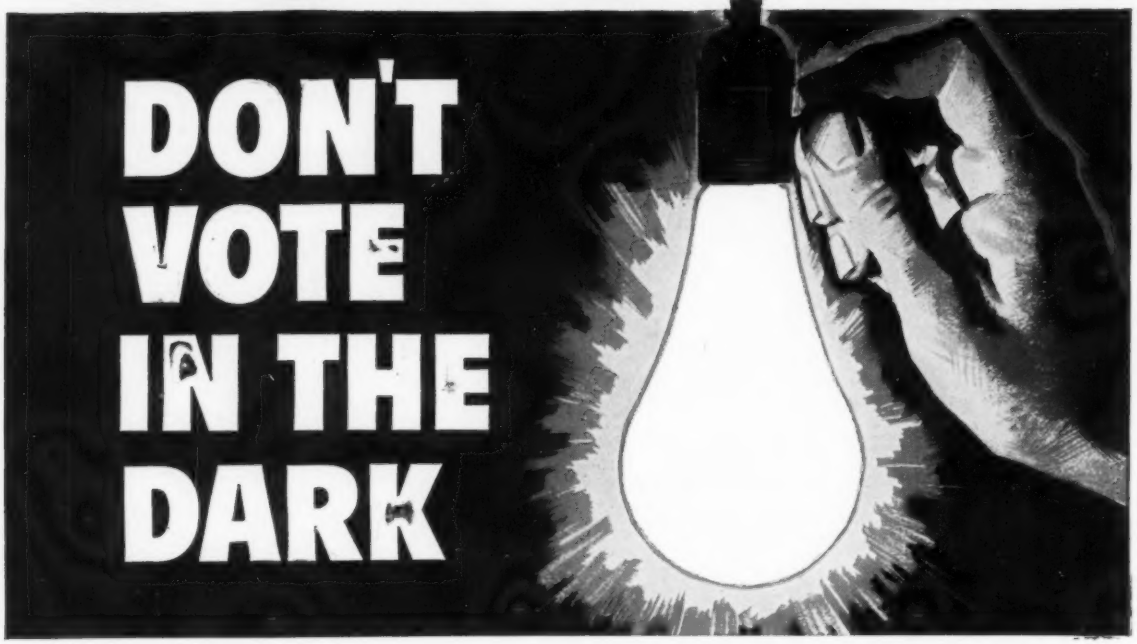
Transposition heel—a change in the relative position of the heel in relation to the pattern.

Tuck—to hold a stitch or stitches so as to gather the fabric together into a small compass.

Two feed—to supply yarn from two points around the knitting cylinder.

Vee—a section of jack butts or steps which take the form of a "V" or inverted "V" in the knitting cylinder.

VOTE + but



Study the issues and the candidates—and then decide where you stand

You wouldn't buy a new car without at least driving it around the block.

You wouldn't buy a new house without checking up on the neighborhood, the schools, and any back taxes.

So vote—but don't vote in the dark in this exciting election year.

Listen to what candidates are saying on TV and radio.

Read your newspapers—especially the political news and editorial page.

Talk things out with your neighbors over the back fence and at the filling station on the corner. Take part in the discussion group at your church, club, lodge, or school.

Think about the issues and the candidates—and then make up your own mind. Remember, nobody is in that voting booth but you and your conscience. Step behind that curtain with pride on election day. Then vote as a free American.

VOTER'S CHECKLIST

1. Be sure you're registered.

2. Study the issues and candidates. Go to rallies. Ask questions. Read the papers. Listen to speeches.

3. Mark up a sample ballot in advance. (They are published in the papers.)

4. Join your neighbors at the polls on Election Day November 6th.

Is your name in the book?

You can't vote if you're not registered. You lock yourself out of the polls, unless you're a registered voter. And you and only you can get your name in the Registration Book. When they call the roll on election day, will you be there? Do you know anyone who won't?

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disk lugs are arranged will need to be considered by the designer.

This holds true for all four sections, as the machine will automatically perform the other steps in the knitting cycle.

To simplify the knitting cycle, we might describe it by saying that the needles rise into action over any jack which has an aligning pattern butt adjacent to an open disk lug.

(Part 2, the final installment of this article, will appear in the December, 1956, issue.—Eds.)

Tips on finishing sweaters made of high-bulk Orlon

● SWEATER fabrics made from skein-dyed high-bulk yarns (for method of dyeing high-bulk Orlon* skeins, see TI for July, 1956, pp 100-101) should be knit with a tighter stitch setting and knit directly to size, according to information recently received from the Textile Fibers Department ot E. I. du Pont de Nemours & Co., Inc. The reason given for this is the fact that no further shrinkage of the yarn will occur.

It has been the experience of the Du Pont Co. that for best results sweaters made from skein-dyed high-bulk yarns should be finished by a procedure different from the one utilized for garments made from tow-dyed high bulk yarns Following are the finishing methods suggested for trial by firms attempting to establish their own plant routines for finishing sweaters knitted from these yarns.

Sweaters made from skein dyed high-bulk yarns should be finished by:

1. Washing
2. Softening
3. Extracting
4. Drying
5. Hot dry tumbling

The fabric or garments should be washed, if necessary, in a tumble washer for 15 to 20 minutes at 120 to 140 F with detergents such as "Duponol" RA or "Capracyl" Leveling Salt to remove surface dirt. The softener should be applied to the goods in a fresh bath, set at 120 F to 140 F in 15 to 20 minutes. The goods should then be extracted and dried.

Once the garments are clean, dry, and have a nominal amount of softener, the fabrics can be further enhanced by hot dry tumbling at 230 F for 10 to 30 minutes. Bleached whites and light blues should be tumbled for the minimum time to avoid yellowing, while with the other shades, the length of time will vary with the softness desired.

The hot dry tumbling not only softens the garment but causes the garment to have a bloomy appearance and clarifies the stitch. The results of this treatment cannot be appreciated until it is tried. Naturally, it is important to cool the garment down slowly while the tumbling action continues.

Sweaters made from tow-dyed high-bulk yarns should be finished by:

1. Steaming
2. Washing
3. Softening
4. Extracting
5. Drying

The knitted goods or garments should be steamed in a relaxed condition for approximately 5 seconds to obtain the bulk and remove the shrinkage. After the initial heat treatment, the fabric is stable. Continuous steaming may be done by plaiting the fabric on an endless mesh belt moving over an open steam table.

The fabric should then be washed in a tumble washer for 15 to 20 minutes at 120 F to 140 F to remove surface dirt. The softener should be applied to the goods in a fresh bath, set at 120 to 140 F in 15 to 20 minutes. The hand of the final garment will depend on the amount and type of softener used.

Finally, the goods should be extracted and tumble dried at 160 F for 30 minutes or until dry. Cooling after drying should be gradual, to avoid setting wrinkles. The final finish is obtained by steaming lightly without using the top buck.

How to knit seamless nylons from filling wound packages

● SEAMLESS hosiery manufacturers who are knitting nylon directly from shipping packages with a long stroke filling wind may benefit from the following suggestions offered by the Textile Fibers Department of E. I. du Pont de Nemours & Co., Inc., in their Bulletin N-75:

1. Stock the package in an upright position so that the yarn delivers over the top of the pirn.

2. Place a cotton batt or similar material under the pirn to prevent snagging and "cut-outs"—this is necessary only where machine vibration may shake wraps off the package.

3. Maintain perfect alignment of pirn and balloon guide to prevent snubbing—where necessary, use an adaptor to insure snug fit of the pirn on its mounting.

4. Keep the balloon guide 8 to 12 inches from the top of the pirn to permit proper "ballooning."

5. Use pirn caps only when the tip of the pirn is rough and buffing is impractical.

6. Reduce tension to the lowest possible level by (a) reducing the number of yarn contact points, (b) maintaining as straight a yarn path as possible, and (c) using abrasion resistant contact surfaces with low friction coefficients.

7. Make machine adjustments for length control only after four or more stockings have been knit on the position—careful handling of the pirn will prevent disturbance of the wind and will minimize off-size stockings as well as other defects.

If troubled with an increase in

tension ring defects when starting to use yarn from packages with the long stroke filling wind, use the following procedure:

1. Use the method given above for knitting from this new package.

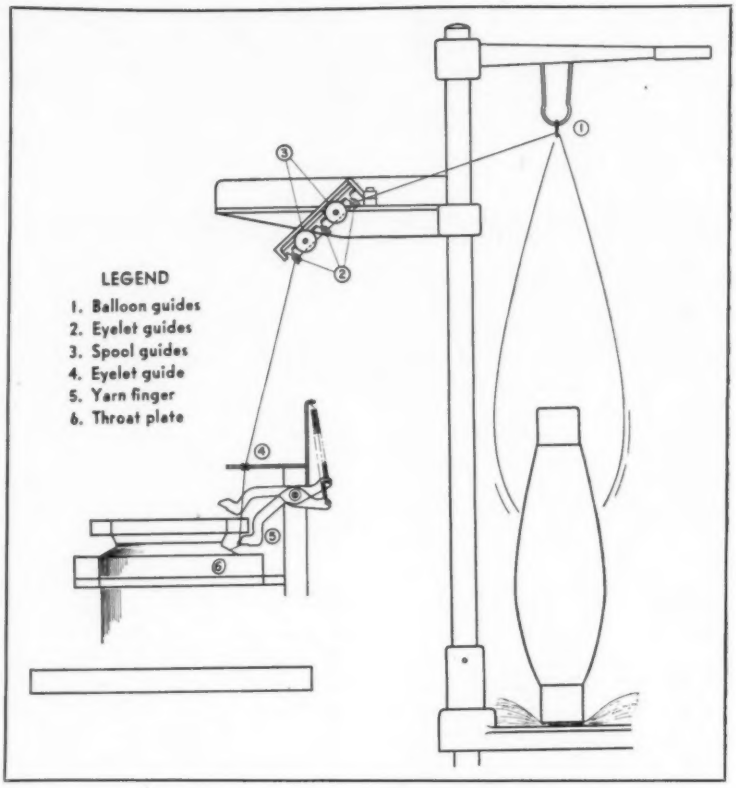
2. Move the pirn to the forward-most position on the yarn tray as shown in the accompanying illustration.

3. Use a matte-finished ceramic for the balloon guide (1) and the eyelet guides (2) and (4) [numbers refer to points shown in accompanying drawing].

4. Replace all rough or cut eyelet guides.

5. Use matte-finished spools (3) and reduce tension to a minimum at this point.

6. Refinish all cut or rough spots on the yarn finger (5) and throat plate (6).



News in Brief

(Continued from page 69)

Fund for Medical Education. Donations made this year to the National Fund for Medical Education will be supplemented by the Ford Foundation, which has set aside $10 million to be used for this purpose over the next few years. For every dollar contributed up to last year's total, the Foundation will contribute 70 cents. Everything above that will be matched dollar for dollar. Meyer Kestnbaum, president of Hart Schaffner & Marx, is chairman of the Textile Division of the Fund's Committee of American Industry.

Cotton Carry-Over. Cotton carry-over as of July 31, 1956, is estimated by the Bureau of the Census as 14,539,624 running bales. The figure includes stocks held in warehouses, mills and other consuming establishments, and elsewhere.

AATCC Scholarships. The Piedmont Section of the American Association of Textile Chemists and Colorists has awarded $250 Charles H. Stone Scholarships to Charles W. Funderburk of Lancaster, S. C., a senior at Clemson College; and to Kenneth L. McKinney of Greensboro, N. C., a senior at North Carolina State College. This is the second year that these awards have been made.

Synthetics for Kiddies. Mothers show a decided preference for man-made fibers in children's wear, according to a study carried out at Iowa State College, and sponsored in part by the Du Pont Co. Principal reason given was the ease of care of such garments, especially less time required for ironing.

Cotton on Top — Not on Top. National Cotton Council claimed recently that 95 per cent of convertible auto tops were cotton last year [see TEXTILE INDUSTRIES for October, 1956, p. 133]. Now Courtaulds (Alabama) Inc., says this is not true, that the Ford Motor Co., for example, is continuing to use solution dyed rayon in its 1957 line, including the Thunderbird. Courtaulds claims that solution dyed is ten times more fast to light than the conventional cotton top.

Association Directory. A new "Directory of Trade Associations" has been prepared and published by the Trade Association Division of the Office of Technical Services, U.S. Department of Commerce. The publication lists the mailing address and the name and title of the key executive for over 2,000 national trade associations and related organizations, and is indexed according to product or service fields. Available from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price: 40 cents.

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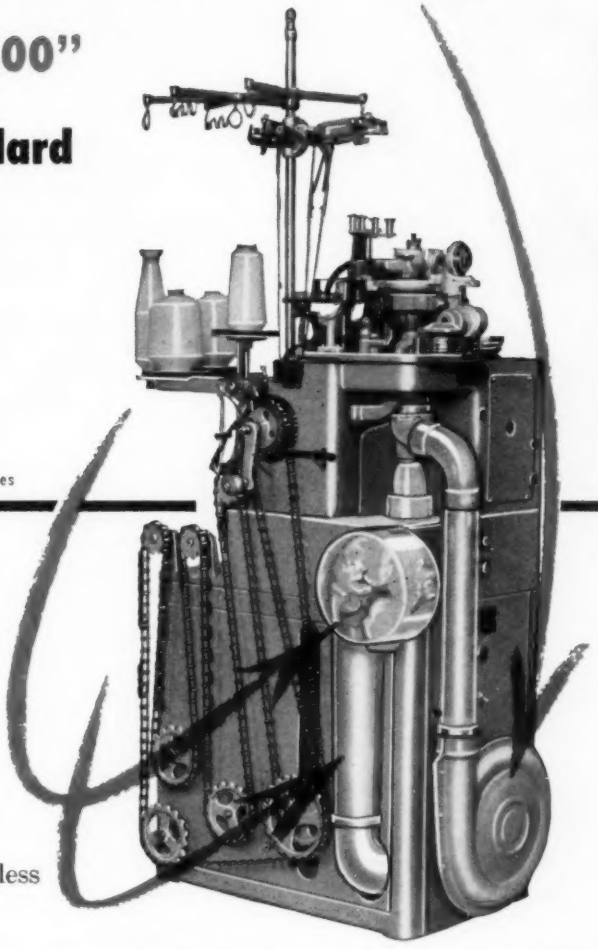

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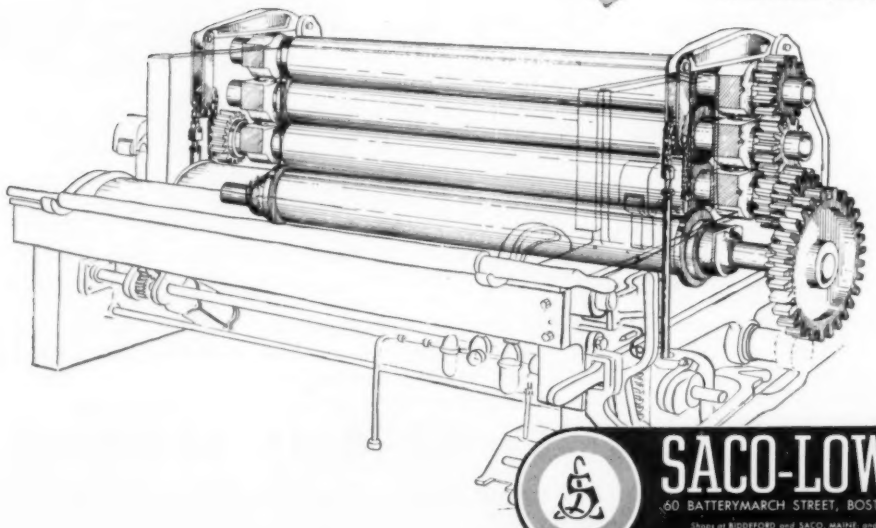

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Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

Job assignments . . . the overseer

EDITOR TEXTILE INDUSTRIES:

We suppose that from the earliest days of the factory system (as we know it) which was begun in England in the eighteenth century, the overseer (or overlooker, as he is called over there) has had a considerable responsibility in assigning the various duties pertaining to the jobs under his supervision. In fact, we strongly suspect that he exercised this prerogative with little interference from his superiors and certainly none from the operators in his department.

We have been in the textile business long enough to have observed some job assignments which apparently were set up in a rather haphazard manner, resulting in some employees being overworked, while others could loaf half the time.

Times have changed, and we do not believe that any wide-awake mill would consider for a moment setting up work standards by any such methods.

Most mills either have a standards department of their own, or they call in outside consultants when it is necessary to make changes in work assignments. In some cases these assignments are being constantly reviewed and changes are made gradually as conditions warrant. Other mills have their work assignments checked periodically, after which the necessary adjustments are made.

Even though the time studies and job analyses are done by time study engineers, either from the mill's own standards department or from the outside consultant's firm, the overseer has considerable responsibility in the actual setting up of the jobs under his supervision.

In the first place, he should be sure that the standards department has all the facts pertinent to the jobs under consideration. This would include machine speeds, package sizes, interference for various reasons, distances to be covered by the operative, quality considerations, etc. Next, he should make sure that all time studies are made fairly; that the pace is not set by the fastest operator, nor the slowest one, and that the machines are on what is usually considered normal production.

Before the new assignments are put into effect he should review them objectively if possible, and pick out any flaws or errors beforehand. Any slackness at this point may cause him much grief later on in the form of complaints and grievances by the operatives.

After satisfying himself and his assistants that the assignments are fair and workable, he should call in some of his key workers (in a mill with a union, this would, of course, include the shop stewards) and explain to them the new assignments, pointing out the advantages to the employees and to the competitive position of the mill. The attitude of the overseer at this point and the "selling job" that he does will determine to

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► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

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a large extent the success or failure of the new work assignments.

There is one point which we should like to stress particularly. If the assignments include any cleaning, oiling or waste collection schedules, he should make certain that all of these schedules are followed to the letter. It has been our observation that more overseers fail at this point than at any other. The overseer should insist upon the compliance with the schedules on all shifts to which they apply.

Just as certainly as an employee is permitted to omit some of the cleaning duties on the schedule, it will not be long before he will say, "This isn't a part of my job," or "The other shift doesn't do it." When this occurs, the overseer is in for plenty of trouble.

Cleaning and oiling schedules should be posted conspicuously in the room so that there will be no excuse for their not being followed. But even this will not take the place of diligence on the part of the overseer and the secondhands in maintaining constant checks on the operatives.

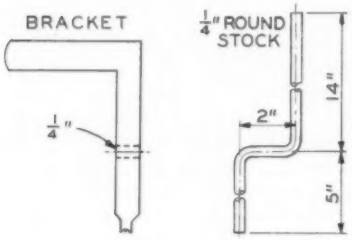
Copies of all the work assignments should be kept in the office of the overseer who should review them periodically with his secondhands. In the event that it is found that any items of the assignments are unworkable, or if changing conditions, production schedules, etc., make them out of date, then it is the responsibility of the overseer to bring this to the attention of management so that necessary adjustments can be made.

CONTRIBUTOR NO. 8930

Stop yarn lashing on Scharer winders

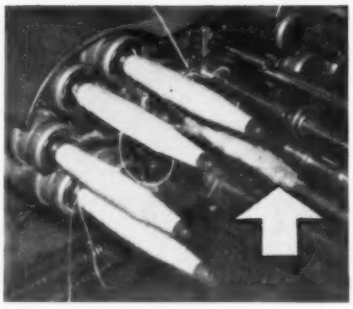
EDITOR TEXTILE INDUSTRIES:

In running a hard twist spun yarn, 30s/2, on our Scharer winders, we constantly were troubled on the change by the yarn as it was cut, snapping away from the knife and flying into the new quill being made. This tail would run up part of the new quill before it broke off.



We were able to eliminate the trouble by bending a piece of ¼" round stock (see sketch) and fitting it into the end of the spindle bracket. We drilled and tapped the bracket to hold the rod securely. We covered the rod with fur and mounted it so it would barely clear the quills as they rotate.

When the end is cut off it leans against the end of the rod and is kept out of the new quill.



CONTRIBUTOR NO. 8921

More on "Crimp" and "Take-Up"

(For the first article of this discussion see TEXTILE INDUSTRIES, *April, 1956, p. 203.—The Editors)*

EDITOR TEXTILE INDUSTRIES:

We appreciate the very thoughtful reply of Mr. Raymond C. Gagnon, Director, School of Textiles, International Correspondence Schools [TI for July, 1956, p. 194], to our article, "Is It 'Crimp' or 'Take-Up'?", appearing in the April, 1956 issue of TEXTILE INDUSTRIES, in the "How Other Men Manage" department. We would like to make some comments.

The discussion started, as will be recalled, when one of our technicians, an I. C. S. student, who was working on some tests for one of our customers who specifies "take-up" instead of "crimp," called our attention to the fact that his "Cloth Calculations" text did not seem to define the two terms clearly.

The Brighton Mills Crimp Tester, which we mentioned in our original article, while no longer being manufactured, is in use in a large number of laboratories engaged in the testing of textiles. There are two scales on the dial of this instrument, the outside scale reading "crimp" and the inside scale reading "take-up." This indicates, of course, that the manufacturer was familiar with the use of the two terms.

We feel sure that Mr. Gagnon is aware of the contribution to textile technology by the late Prof. George B. Haven, of the Massachusetts Institute of Technology, who prepared the text for the "Wellington Sears Hand Book of Industrial Fabrics," from which we quoted in our article. It will be

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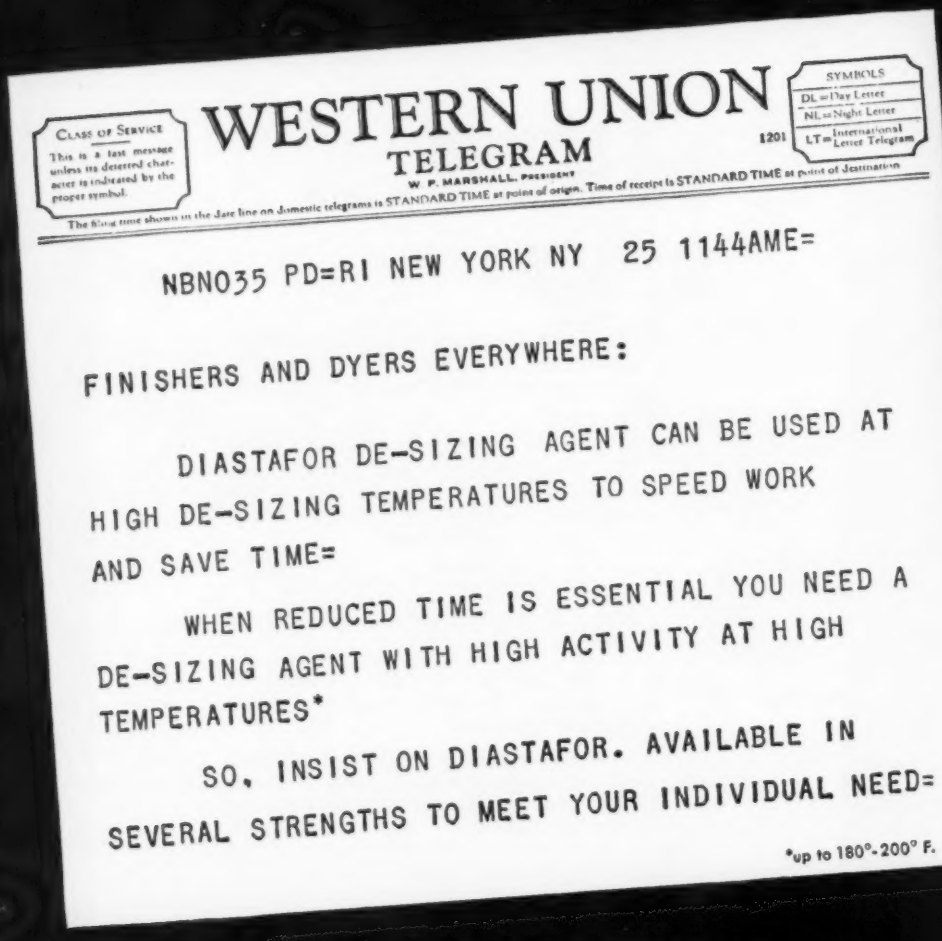

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noted that Prof. Haven went to considerable length to explain the use of these two terms.

Frankly, we do not know at present why the term "take-up" is not defined in the ASTM manual. The writer is a member of ASTM and an associate member of Sub-Committee B2, Nomenclature and Definitions. Perhaps we can get the answer to this question later on.

The Callaway Textile Dictionary, which we also quoted in our original article, was published under the sponsorship of the Callaway Mills Co., large manufacturers of industrial fabrics. They are, of course, familiar with the use of the terms "crimp" and "take-up," and therefore define both in their dictionary of textile terms.

We cannot close this litle discussion without reiterating our admiration for I. C. S. and the contribution that it has made through the years to textile education and textile progress.

CONTRIBUTOR No. 8845

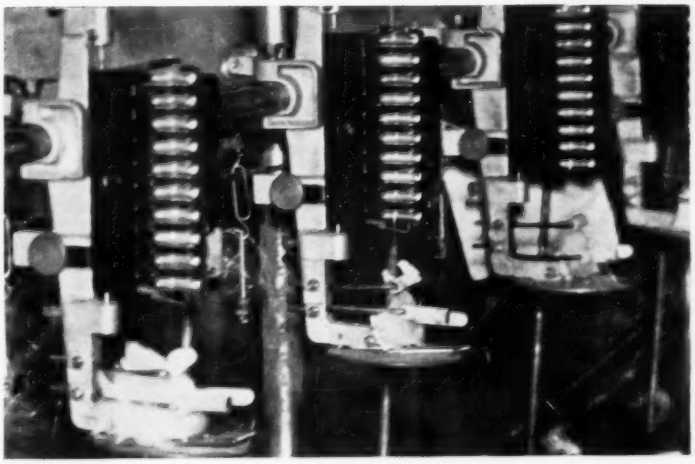
Stop yarn jumping from gate tensions

EDITOR TEXTILE INDUSTRIES:

When quilling from cakes on winders equipped with gate tensions, we often experienced the yarn's jumping off the porcelain and, unless the operative corrected the condition immediately, causing soft quills.

I corrected for that condition by gluing a small piece of sheepskin to the back of the bottom porcelain. The sheepskin holds the thread to the porcelain and prevents its slipping off even when a knot, slub, or an imperfection in the cake appears. My soft quills have cleared up.

CONTRIBUTOR No. 8875



Relationship between fiber immaturity and honeydew

EDITOR TEXTILE INDUSTRIES:

Can you give me some information on the relationship between honeydew and immaturity of the cotton fiber? Can the causticaire method give any assessment of honeydew?

CONTRIBUTOR No. 8931
(*Scotland*)

This question was referred to two cotton fiber experts. Their replies are reprinted below. — The Editors.

EDITOR TEXTILE INDUSTRIES:

It can definitely be said that there is no relationship between honeydew and the immaturity of cotton fiber. Honeydew is the excreta of aphids, or sap sucking insects, which do not metabolize the soluble sugars in the cell sap taken as food, and which do excrete the sugars in minute droplets. It is reported that aphid infestations are presumed to be due to a combination of conditions, including an unbalanced insecticide treatment.

The reducing sugars in the honeydew react the same to chemical reagents as do the normal reducing sugars present in cotton. Immature cotton appears to contain more reducing sugars than does mature cotton. Rain and dew have a tendency to dissolve the honeydew and disperse it on the cotton.

The causticaire method is used for studying the fineness and maturity of cotton and does not give any information as to the presence of honeydew.

One method recently proposed for honeydew is to apply Benedict's solution to a flat of the cotton in question by means of an atomizer, and then to heat the treated sample with moist heat by means of a steam electric household iron [TI., Dec., 1953, p. 120].

If discrete droplets of honeydew are present, the reducing sugars react with the Benedict's solution, and a red color will appear which is attributed to the development of reduced copper. In the case of cottons which have been subjected

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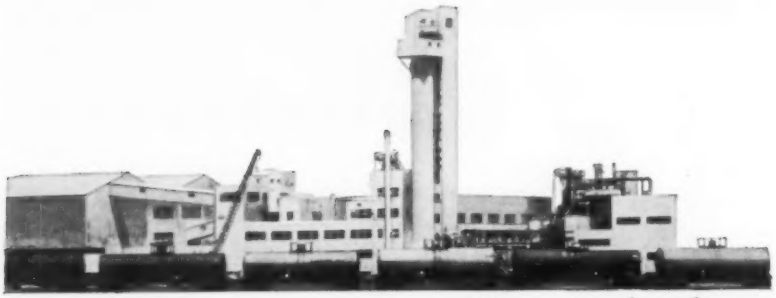

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to rain and dew, the test will not be as specific.

CONTRIBUTOR No. 8932

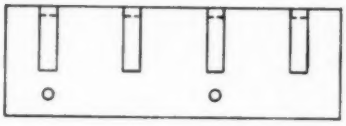
EDITOR TEXTILE INDUSTRIES:

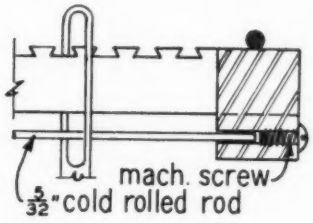
There is no relationship between honeydew and immaturity of cotton. Honeydew is caused by the excreta of the aphid, and can affect mature cotton as well as immature cotton. The fact that immature cotton laps up excessively in processing may cause some people to think that it is contaminated with honeydew.

The causticaire method of measuring fineness would not give an indication of honeydew. As a matter of fact, the honeydew would be washed off in the caustic treatment, and a sample that might show a positive reaction before testing would show a negative reaction following the causticaire test.

CONTRIBUTOR No. 8933

Save wear on sliding bar stop motions





EDITOR TEXTILE INDUSTRIES:

The drawing I am submitting is self-explanatory. We adopted the device to save us some wear on the more expensive parts of our sliding bar stop motions. The addition of the cold rolled steel rod keeps the slot in the drop wire from bouncing against the bottom of the sliding bar unit.

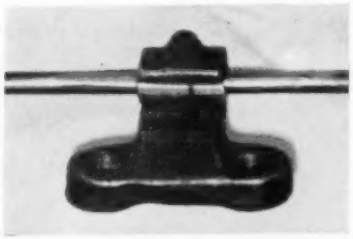
Be especially careful in mounting the cold rolled steel in the support brackets. There must be enough clearance between the ends of the rod and the machine screws to allow the rod to turn as the drop wires bounce against it. The screws are installed to permit easy insertion and removal of the rods.

CONTRIBUTOR No. 8908

Bush that XD knock off rod bracket

EDITOR TEXTILE INDUSTRIES:

I noticed my loom fixers replacing a lot of the center fork knock off rods on our Draper XD looms. This is a minor part, but replacing them and keeping the center fork parts replaced and set can use up a lot of time. The rods were wearing excessively where they ride in the brackets.



To stop this wear I reamed out the brackets and forced a brass bushing tightly in the bore. The supported rods run fine and keep the rod steadier at knock off. Also the bushings brace the rod in the bracket and reduce wear on that part — it seems to me that the related parts work better now.

CONTRIBUTOR No. 8920

Oil that traverse screw

EDITOR TEXTILE INDUSTRIES:

To prolong the life of the vacuum stripper traverse screw and pawl, bore a 3/16" hole in the housing of the traverse screw 7" from each end. Each time the grinder is used, put a few drops of oil in the holes. This lubrication will reduce wear.

CONTRIBUTOR No. 8926

Use clip board on frame

EDITOR TEXTILE INDUSTRIES:

A clip board hung on a knitting frame not only will hold daily knitting records, but it gives a handy backing for writing entries on the records. Secure a hook (we use a bent piece of heavy copper wire) to the frame to allow easy removal of the board. The board and papers will not blow off while the machinery is being cleaned with compressed air.

CONTRIBUTOR No. 8914

Limit fabric roll size

EDITOR TEXTILE INDUSTRIES:

Our knitting machines stop automatically when our fabric rolls reach a predetermined size. We accomplished this automatic control by mounting a limit switch above the shaft the cloth rolls up on. By drilling several holes in the machine side, we are able to position the switch to run several sizes of rolls. The limit switch is connected to the machine stop motion.

CONTRIBUTOR No. 8902

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*Registered Trademark for Dupont's Polyester Film

Use thumb print test for drying varnish

EDITOR TEXTILE INDUSTRIES:

When some of the slower-drying varnishes are used in the humid atmospheres of the weave room, the already lengthy drying time seems to grow excessive.

Nonetheless, if the full life of the finish is to be obtained, the varnish must be allowed to dry thoroughly between coats. Otherwise, the varnish will dry slower and slower as the coats pile up. One sure way to test for dryness is to press the thumb firmly against the varnish for one minute. If the thumb print will then wipe off, the finish is dry.

CONTRIBUTOR NO. 8941

Corrugated cardboard file for knitting jacks

EDITOR TEXTILE INDUSTRIES:

An inexpensive corrugated cardboard jacket is less costly and far more convenient than other common methods of storing knitting machine jacks (see illustration). This method of storing jacks enables the designer to prescribe reuse of the jacks, and considerable labor is saved both in finding the jacks and (in instances where jacks are lost) in making new jacks.

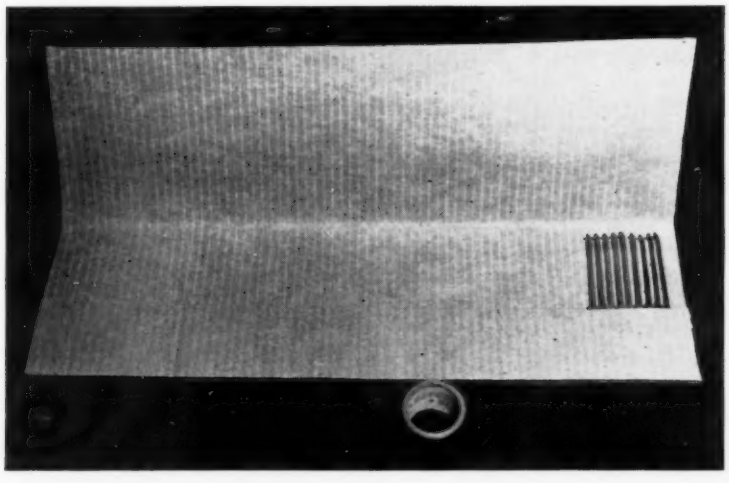
The used jacks are transferred directly from the machine into the corrugated cardboard jacket or from the jacket into the machine, as required. This saves time usually spent in transferring jacks from extra cylinders or other similar methods.

This method of storing permits filing the jacks for quick location, thereby eliminating time spent in searching for patterns previously stored.

Since the jacks are stored in their respective groups, certain jacks can be reused in subsequent patterns, although the entire set may not be used. This saves jacks and labor consumed in breaking new jacks in instances where components of the old group are reused.

CONTRIBUTOR NO. 8915

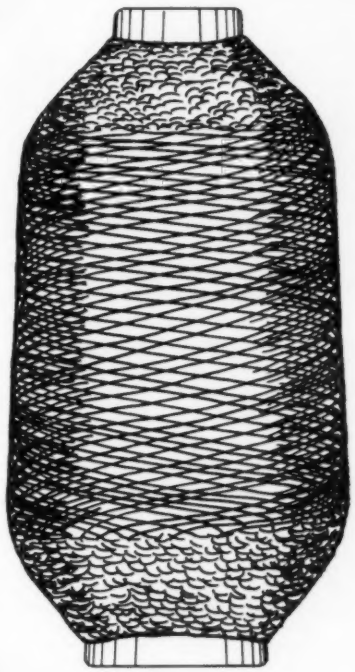
One layer of corrugated cardboard is cut away to within a few inches of one edge. This edge serves as a ready-made pocket for jacks, each corrugation being sufficient for a single jack. The cardboard may be folded to form an envelope, and sealed with tape. Appropriate identification should be placed on the cardboard package.



Rubber knit yarn package

EDITOR TEXTILE INDUSTRIES:

We have overcome a difficulty in knitting rubber yarns by having our yarns packaged with a taper at each end. The finished package



through its slightly oval shape, runs off without hanging and stretching.

Another difficulty in knitting rubber yarns is the ease with which the yarn package is damaged from a slight bump. The yarn layers are easily disturbed, and when moved they tend to hang and cause stop motion troubles.

We obviate such troubles by handling all rubber yarns with special care, and by having the special package wound under very little tension. Wrapping all packages in heavy paper also helps.

CONTRIBUTOR NO. 8887

1 Provide strong wooden cases for shipping or moving rubber rolls. Allow enough clearance for roll to be lifted in or out of the case without scuffing.

2 Lift rolls by journals. *Never* lift with cables around the rolls. Protect the journals to prevent marring the bearing surfaces.

3 *Never* roll or lay rolls on rubber covered surfaces. Permanent damage to surfaces can be caused by picking up foreign materials, or by indenting or cutting the surfaces.

4 When lifting rolls by the journals, provide packing or cushions at ends of the faces, so that cable or chain does not tear the rubber covering at those points.

5 Take care that oil is not dropped on rubber surfaces from hoisting equipment, or thrown from other machinery. If oil does get on surfaces, wipe off immediately.

TYER RUBBER COMPANY offers these sound rules to help you get better service and longer life from your rubber covered rolls.

For almost thirty years, Tyer has been engaged in the development, compounding and manufacture of high quality Rubber Covered Rolls for many industries. Make use of this specialized experience—ask Tyer engineers for recommendations concerning *your* specific roll applications. Or for free catalog on Tyer Rubber Covered Rolls, write today to Dept. TI.

Our 100th Anniversary

Tyer *Rubber Company*

ANDOVER, MASSACHUSETTS, U.S.A.

Gastonia

Precision-built Parts for Better Performance ...longer life!

Get MORE production at LOWER cost with Gastonia Cylinders

GASTONIA Spinning, Twister, Spooler and Quiller Cylinders are dynamically balanced and scientifically tested to assure top performance for continuous, high-speed production.

Like all other GASTONIA Products, these Cylinders are precision-built from the finest materials by skilled workmen having many years of practical experience.

For the manufacture, repair or rebuilding of Cylinders to your specifications . . . call GASTONIA.

Gastonia TEXTILE SHEET METAL WORKS, INC.
Gastonia, North Carolina

A sheet metal works serving textile mills

CARD SCREENS
Standard type rib or perforated—cut and assembled on special precision-built jigs.

CYLINDERS
Dynamically balanced for better performance—reduce vibration to an absolute minimum.

ASPIRATORS
Precision manufacturing methods assure proper shape and balance of Aspirators and Aspirator Dampers.

LAP CONDUCTOR TINS
WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
BACK TINS

COMBER REEEDLING
Top Combs, Half Laps and Winder Guide Combs precision-rebuilt of top quality materials to manufacturer's standard specifications. Imported English needles of tempered high-tensile steel used exclusively.

Need New Pickers?

. . . then think of what you get in

NEW ALDRICH PICKERS!

✓All spur gears are cut instead of having rough cast teeth.

✓Many gears are cut steel where other pickers have rough cast, or malleable iron gears.

✓Ball bearings are used wherever practicable, and in places not used on any other pickers. Oilite bearings are used at most points where ball bearings can not be employed. The extensive use of ball bearings and Oilite bearings eliminates practically all routine lubrication.

✓Self-aligning, permanently lubricated ball bearings are used on screen shafts. They never require attention, and never create the oily chokes occurring with plain oil bearings.

✓Self-aligning Oilite draw roll bearings can be installed in a few minutes, and lubricated every few months.

✓A more sensitive evener, with:

A new weighting method which keeps moving parts under tension and eliminates lost motion

Ball bearing rollers to guide the scale motion in the evener case to keep the scale in perfect alignment and prevent binding against the case

A round sliding stem in an Oilite bushing in the evener case instead of the old rectangular stem without lubrication

An improved evener case, more nearly dust tight than older models

✓A really silent sideshaft drive to the evener. This drive is mounted wholly on ball bearings and provides for any necessary speed changes to take care of different lap weights.

✓The Aldrich Synchronizer, which makes it possible to produce a lap from a lap, instead of merely breaker laps for the cards, as is done on most other single process picking systems.

✓A completely redesigned calender containing so many new features that these will be described in a future advertisement.

Aldrich Machine Works

Greenwood, South Carolina

These are actual comments made at the Southern Textile Exposition

"Our Pneumafil paid for itself in less than one year, we especially like your new collector unit . . ."

"We put Pneumastop in six months ago and now the roving runs much better with fewer ends down in our spinning . . ."

"I'm glad we decided on Lint Free Creels because they look better and stronger than any of the other creels . . ."

"Our Pneumafil Central Material Recovery System blends the cotton back in much better, and our ends down count is much lower because of the even humidity distribution . . ."

"We like your Bobbin Holder because nothing drags on the roving . . ."

Let one of our engineers visit your mill and explain how you too can improve production and quality and at the same time reduce cost with Pneumafil Products — remember there *is* a difference.

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PNEUMAFIL®

NEW EQUIPMENT PARADE

Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors

Continuous dyeing for 15' tufted carpets

A Niptrol mangle which maintains uniform pressure across the entire width of the nip (eliminating the effects of roll deflection) makes possible the dye padding of tufted floor coverings up to 15' wide. Either direct or

vat dyes, on latexed or nonlatexed goods, may be applied by varying the auxiliary equipment. The mangle eliminates wet centers and center-to-side shading.

An air bag running the full length of the roll applies pneumatic pressure to segmented rollers staggered across the full nip. These rollers transmit uniform pressure to the top squeeze roll at every point. Also a small diameter nip roll gives a sharper nip and thereby greater extraction. Backing up the small nip roll with a large diameter support roll provides another corrective for the effect of deflection.

Direct colors are applied in the pad beck process, utilizing the dye becks already present in the plant. This system employs the Niptrol mangle for application of direct dyes, with the fixing and rinsing operations carried out in the plant's existing becks. The same mangle dyes and extracts. Thus a continuous processing system is possible with two Niptrol mangles and existing kettles.

The application of vat dyes by the pad steam process involves the use of the mangle for the application of the dyes, with a steamer used for development, followed by a cold spray rinsing and a neutralizing bath in an existing kettle. Extracting is done by a mangle of the same type used in padding.

Rodney Hunt Machine Co., 65 Mill St., Orange, Mass.

Do you want more data? Write ◆ or use card on page 177; list L-101

Narrow truck carries eight 18" sliver cans

An all-steel 18" x 172" truck is designed to carry eight 15" or 18" sliver cans in single file. A companion truck, built to carry eight such cans in two rows of four, is 98" long by 37" wide. Other trucks are designed to carry from two to six cans.

For maneuverability, the trucks are equipped with two 6" rubber-tired wheels in the center, and a swivel hard-rubber roller bearing wheel at each end.

Bennett Rose Co., P. O. Box 8, Roebuck, S. C.

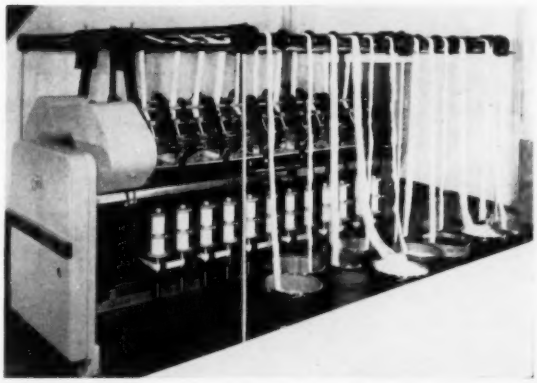
Do you want more data? Write ◆ or use card on page 177; list L-102

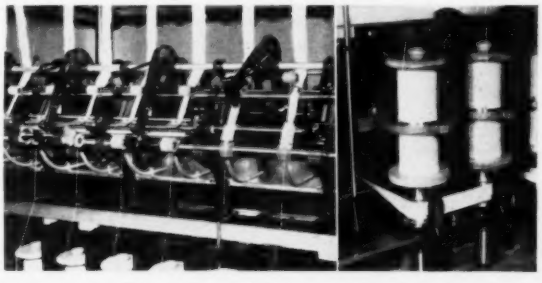
Spin 10s worsteds from 100-grain sliver

The Saco-Lowell "Spinster" is designed especially for the production of yarns for the carpet and rug trade, for coarse-count worsteds, and high-grade hand knitting yarns. The back stock is in the form of sliver (up to 100 grains per yard) drawn from sliver cans. Adapted to worsted counts from 0.5s to 10s, the machine produces a Dwight or straight wind package weighing up to 4.00 lb (6½" rings).

This frame consists of a Model 4 high duty twister chassis built on an 8" gauge and arranged for a 10" lift. A special F-5 drafting element is adapted to process wool and synthetics from 1½" to 9" in staple length.

The drafting element is installed on the roller beam in a forward position so that the nip of the front roll delivers the yarn directly over the spindle. This ar-





Above, over-all view of the "Spinster." Below, close-up photos showing the drafting element (left) and method of mounting the vertical rings (there is no conventional ring rail).

rangement allows the twist to run to the nip of the roll with a modified "mule effect." Fiber control is good,

with drafts ranging from 3.28 to 45.7.

A heavy duty twister spindle, the New Era oil cushion type No. 5, carries the heavy yarn load at speeds up to 4000 rpm.

The rings are of the vertical type and are mounted on a rugged bar supported by the lifting rods. There is no conventional ring rail.

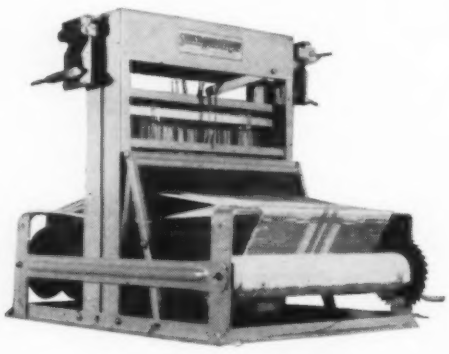
Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

Do you want more data? Write ◆ or use card on page 177; list L-103

Hand looms for quick pattern and sample making

For the preparation of samples of novelty weaves, color patterns, etc., the Artcraft hand-operated loom is available in widths from 8" to 26". Ease and simplicity of operation, lightness of weight, design, construction, and the small amount of space required to operate or store are features. A choice of four or eight harnesses is offered in the 8" width; four harnesses in the 20" width; and four or eight in the 26" width.

Harnesses are suspended by levers which when lifted lower the harnesses previously raised. Harness position for the picking motion is secured by an automatic latch. Thus, one movement raises, lowers, and retains the position of the harnesses until ready for the next change of shed. Harnesses are removable and can be easily taken from the loom to rearrange the heddles.



Heddles are made of flat steel, uniform in length and shape. The heddle bars are designed to lock into the harnesses which automatically hold them without the use of screws or other fasteners.

The warp is advanced and held by a ratchet and dog fitted on one end of the cloth and warp beams. An assortment of shuttles is offered. Beams can be furnished in plain, unfilled wood, or in hexagonal steel for holding a series of Ready-Warp spools, which can be obtained in a variety of colors and yarns.

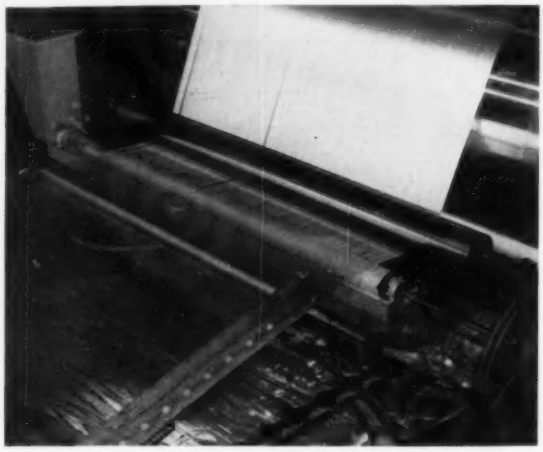
Structo Mfg. Co., Freeport, Ill.

Do you want more data? Write ◆ or use card on page 177; list L-104

Apply wax to warps to up weaving efficiency

The Convax Applicator is designed to insure even application of wax to warps at the slasher with a minimum of effort from the tender. It consists of an automatic wax level control, automatic temperature controls, and a feed box which holds sufficient quantity of wax to operate the waxer for some time.

The applicator is installed at the front of the slasher between the cans and the first split rod. The yarn comes over the applicator roll which runs in the wax solution. It is a driven roll, turning at a slower speed than the yarn is turning, so that the yarn wipes the wax off. The wax is applied at 190 F approximately, and congeals or sets up within a few inches of warp travel after leaving the applicator roll. This deposits a smooth, even coating of a relatively firm non-tacky wax on the individual warp ends, laying any fuzz or broken filaments that may be present, and insuring adequate lubrication at the loom.



Slasher equipped with the Convax applicator for overwaxing.

Convax (wax) will coat the yarn with a protective film; its high melting point (146 F) prevents gumming at the slasher or the loom. The wax lubricates the yarn for better running on the loom, and delivers cleaner finished goods. Being 100% emulsifiable, it presents no finishing problems. Insoluble in cold water, the wax is of nonionic composition, off-white in color, has a hard smooth surface, and is 100% active.

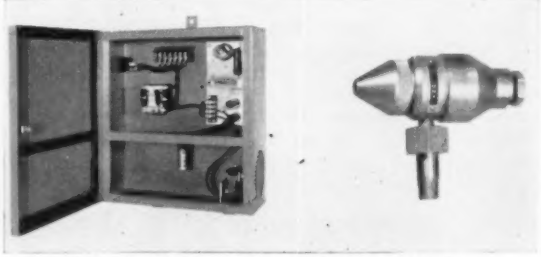
Bryant Chemical Co., 6 North St., North Quincy 71, Mass.

Do you want more data? Write ◆ or use card on page 177; list L-105

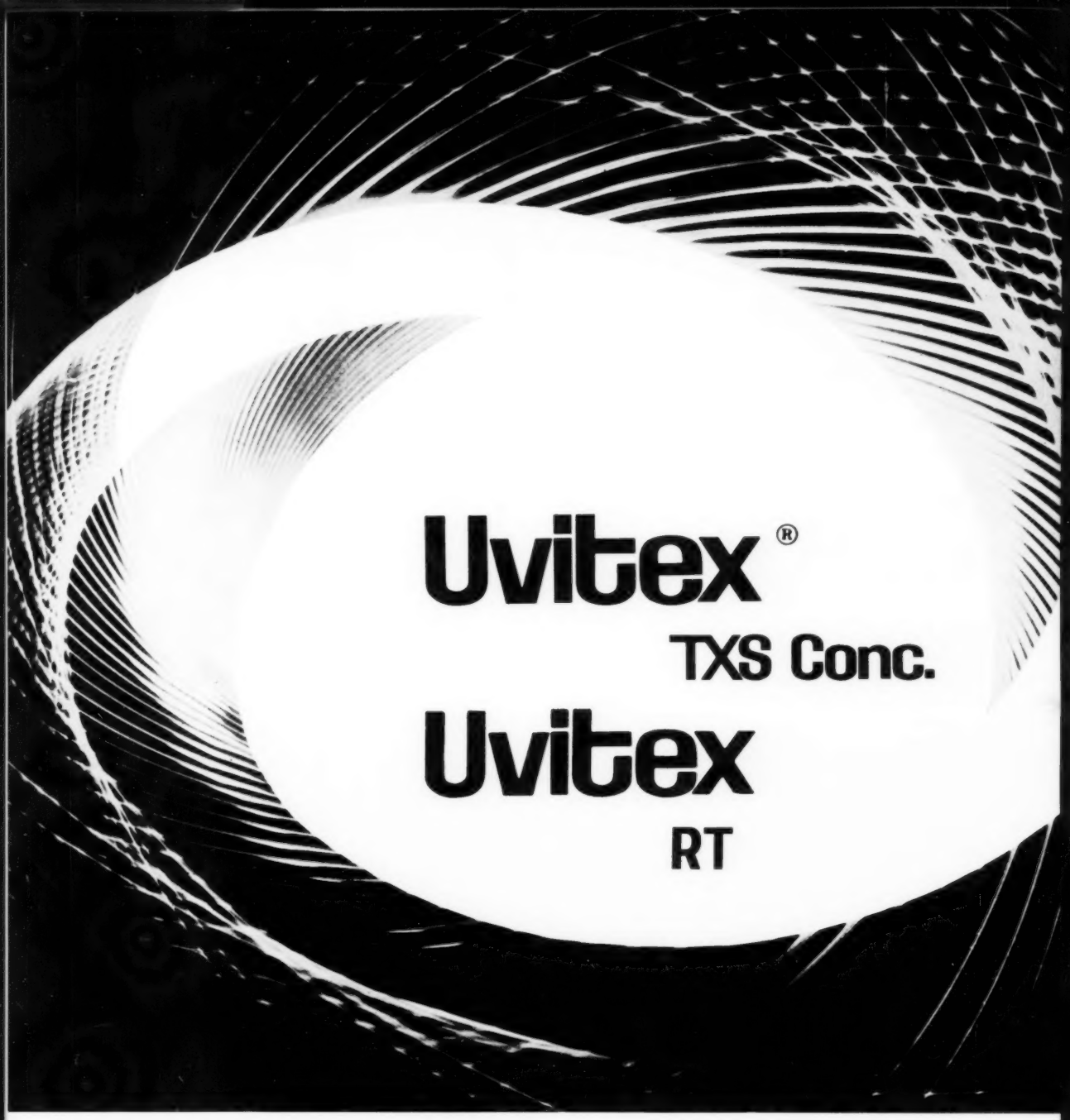
Save power with humidity head and control

Designed specifically for the textile industry, the National HU-501 electronic humidity controller responds instantly to changes in relative humidity, and regulates space humidity within a total band of less than 1%, regardless of ambient conditions.

The measuring operation does not depend upon the physical changes of an hygroscopic element. A sensing element is chosen to cover a specific combination of temperature and relative humidity — say 77 F at 66% relative humidity — inserted in the control, set,



Left, humidity controller; right, the atomizer.



SOMETHING EXTRA IN white

Because whiter whites move merchandise, the finishing of white fabrics calls for a higher degree of whiteness than ever.

UVITEX TXS Conc. produces outstanding whites on cottons and rayons—by exhaust application.

UVITEX RT, for cotton, wool, nylon and other fibers. Applied from neutral bath at room temperature or in hot dyebath. Compatible in finishing bath.

CIBA

Fast Shades faster with the Cibalans® Extend their use with . . .

Cibalan Salt S

enables wool to be dyed with Cibalan colors in acid bath (pH 3-7)

Cibalan Salt S

provides exhaustion control of Cibalan colors in nylon dyeing

Cibalan Salt S

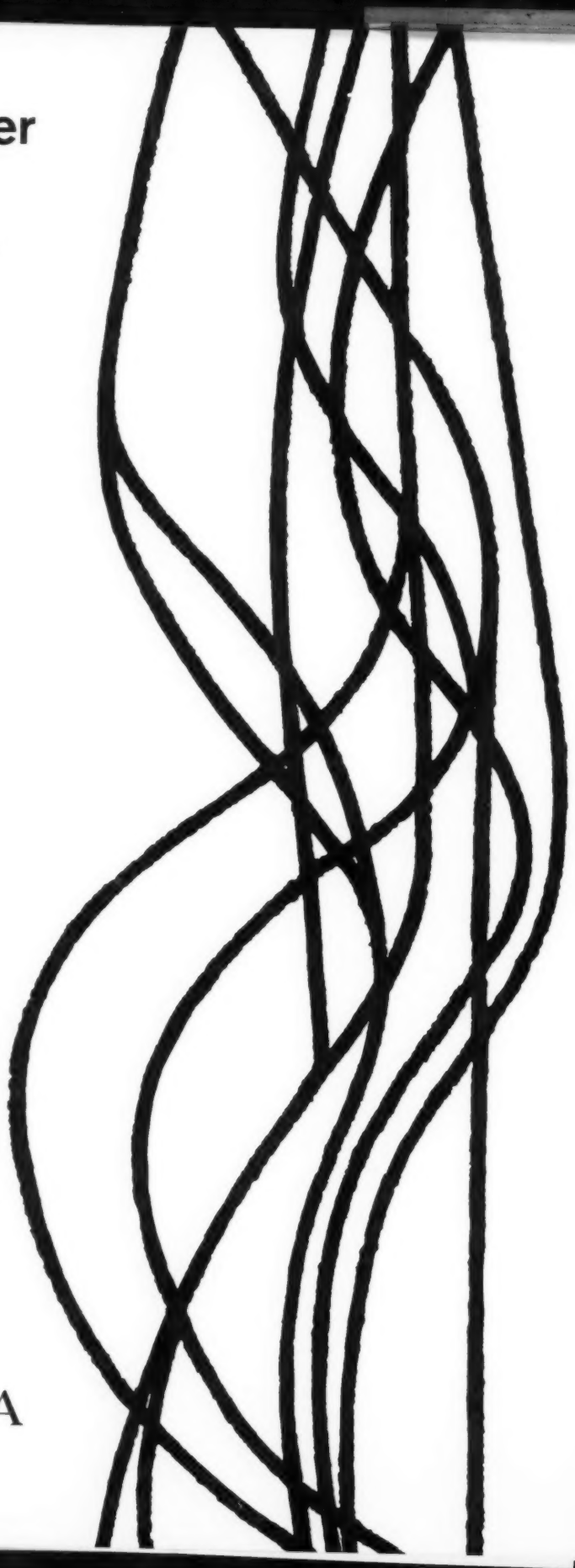
permits Cibalan dyeing of wool or nylon at any processing stage, with dyeing method adapted to suit the finish required

Cibalan Salt S

does not affect the character of wool or nylon

Cibalan Salt S

leaves fastness properties of Cibalan dyeings unimpaired.



CIBA

and left alone. The element will keep the humidity within a differential of 0.5%. No further adjustments are necessary.

The aspirating fan is driven by a brushless type induction motor designed for continuous service. The control cabinet is equipped with a fine mesh air intake filter, which is provided with an automatic filter cleaner.

A companion product, the National NA humidity atomizer, is a pressure type head, with air and water under pressure, which provides large savings in power costs. The air and water pressures are not critical and cover a wide range of pressures without affecting the quality of the spray. The normal water pressure is 30 lb; the air, 28 lb. Compensation is made automatically for variable air and water pressure.

The head has one moving part — a single laminated nylon and neoprene diaphragm. It is self-cleaning, has a controlled spray pattern, automatically fails safe, and consumes 50% less air for the same amount of water evaporated than gravity type heads.

National Controls, Inc., 400 Homer St., Newton Centre 59, Mass.

Do you want more data? Write ◆ or use card on page 177; list L-106

"Hands-free" telephone service

The Speakerphone permits telephone conversations to be carried on from any point in the room without the use of a receiver or mouth piece. The unit is no larger than the regular desk phone, and can be used in the conventional manner when privacy is desired.

A small speaker is placed alongside the phone to broadcast the incoming voice; a built-in microphone picks up the outgoing voice. This arrangement leaves the speaker's hands free to take notes, refer to files, etc., during the conversation.

Efficient and easy to operate, the instrument can be utilized as a distant talker, allowing several people in one room to carry on a conversation with others some distance away. This enables manufacturing and sales personnel to talk jointly with sales offices or directly with the customer.

In use, the unit is brought into play by depressing the "on" button and listening for the dial tone. When the tone is heard, the number is dialed in the usual way. The volume control is adjusted to the desired level while waiting for the party to answer. When the called party answers, the conversation can be started without lifting the receiver.

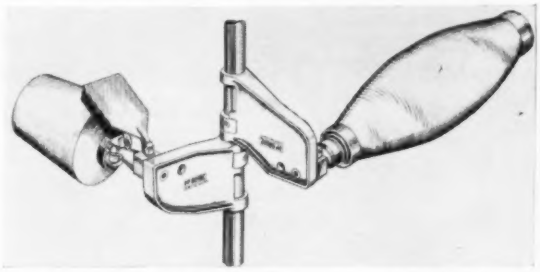
The microphone will adjust automatically to the volume. Press the "off" button when the conversation ends. For receiving calls, depress the "on" button and begin talking from any place in the room; or lift the receiver and use the phone in privacy.

American Telephone & Telegraph Co., 195 Broadway, New York, N. Y.

Do you want more data? Write ◆ or use card on page 177; list L-107

Swinging package arm for magazine creels

Designed to meet the demand for equipment to accommodate the heavier and longer yarn packages of today is a swinging package arm for magazine creels. Of substantial construction, the arm has an adjustment to vary the swing radius. A bowed spring spindle, a separate and detachable unit, makes replacement or repositioning a simple operation without dismantling. The arm is equipped with a Ball Retent positioning lock.



Quick-change cone holders and combination adapters for Chemstrand and Du Pont pirns can be used in conjunction with the bowed spring spindle. Most types of packages are handled by this spindle in combination with the quick-change holder.

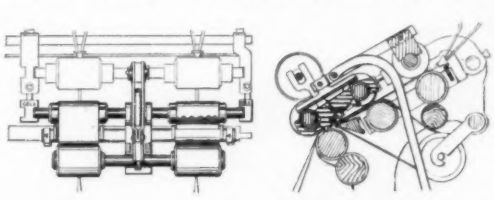
A self-adjusting, anti-snagging pad which follows the back edge of the package during the draw-off is optional equipment. A thick polyurethane pad gently but firmly follows the contour of the package continuously and keeps the yarn from falling off the back of the cone.

Edward J. McBride Co., Inc., Cottman & Wissinoming Streets, Philadelphia 35, Pa.

Do you want more data? Write ◆ or use card on page 177; list L-108

Long draft conversion is easily cleaned

A long draft conversion system, employing double aprons, contains no front line nebs and no cradles. The middle line nebs control the alignment of the middle and front rolls. With the absence of the cradles and front line nebs, the units are accessible for speedier picking and other cleaning. Anti-friction top rolls keep the field dry of surface oil. The system includes an anti-friction top roll, equipped with roller bearings, and lubricated for life.



A bracket is attached rigidly to the shaft of the middle line roll. This bracket provides a parallel groove which controls the front roll alignment. A stainless steel apron nose bar is attached to the same bracket to serve as a cradle. Apron guides are attached to the nose bar and are completely remote from the middle line roll. Re-

ELEVATED STEEL TANKS

● For more than a century, COLE elevated tanks have been helping provide fire protection and adequate water reserve for the textile industry.

Capacities from 5,000 to 2,000,000 gallons—and covering designs ranging from standard hemispherical self-supporting bottom to spherical tank on tubular tower. Send us your inquiry, stating capacity, height to bottom and location. Write for *Tank Talks.*

R. D. COLE MANUFACTURING CO. COLE NEWNAN, GEORGIA

Elevated Tanks, Pressure Vessels, Chemical and Processing Equipment from Aluminum, Stainless and Carbon Steel, Monel and Other Alloys.

Established 1854

R. D. COLE MANUFACTURING CO.
NEWNAN, GEORGIA

movable spacers are attached to the extreme ends of the nose bar to insure horizontal relation with the lower line nose bar on which it rests. The spacers are numbered and furnished in four different sizes. The bracket, made of extruded aluminum, is designed to receive individual front line clearers.

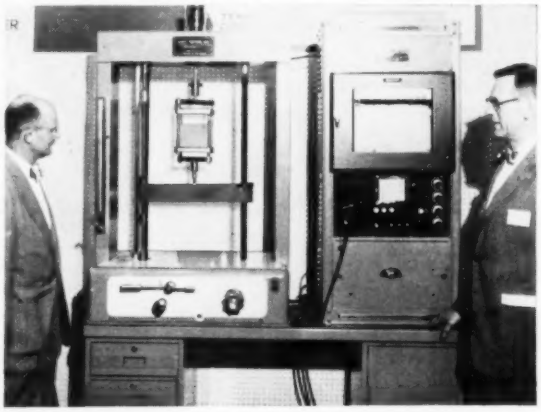
A spring weighted saddle, designed for use with the conversion units, is also offered.

Cole Engineering Corp., P.O. Box 153, Columbus, Ga.

Do you want more data? Write ◆ or use card on page 177; list L-109

Tensile, compression tester weighs electrically

Designed to test for tensile strength, hysteresis, and compression strength within the range of 0 to 2000 lb tensile, the model CET tester is equipped with a re-



cording system which permits the critical areas of reaction to be segregated, magnified, and pictured in minute detail. The machine will test any type of fiber, yarn, or fabric.

Stretch of the specimen can be magnified on the chart up to 200 times the actual. A selected significant portion of the stress-strain curve can be isolated and shown full-span on the chart, magnified up to 10 times. The electric weighing system, being free from inertia and accurate at all stages of the test cycle, is accurate within 0.25%.

Specimen elongation is effected by downward motion of the lower crosshead, driven by double screws operating in "ball nut" housings. Compression testing is accomplished by the same action with the specimen in a fixture which exerts compressive force. The machine has a capacity for specimens 15" square up to 20" high.

For hysteresis (fatigue) testing, the cyclic action of the lower crosshead may be actuated manually, or may be set to continue downward and reverse the cycle automatically, with instantaneous change of direction at the bottom and top of the strokes.

Scott Testers, Inc., 60 Blackstone St., Providence, R. I.

Do you want more data? Write ◆ or use card on page 177; list L-110

Treated starches cook fast, remain stable

A family of treated potato starches, Arogums, offers to the textile industry greater viscosity stability, quicker cooking, better luster, greater retention, more flexible coatings, and improved penetration.

Some other advantages the starches provide are: (1) larger granule size, (2) lessened set-back (reversion to the original gelatin after the cook), and (3) narrower

limits of viscosity variation. In relation to starches converted by enzyme action or acid treatment to reduce viscosity and ropiness, these have the property of markedly less loss through conversion to sugar.

Because of their chemical natures, lower temperatures and less time are required to develop the viscosities and consistencies needed for most work. Cooks as low as 150 F and 10 minutes are possible.

Morningstar, Nicol, Inc., 630 W. 51st St., New York 19, N. Y.

Do you want more data? Write ◂ or use card on page 177; list L-111

Yarn conditioning attachment for quillers

A yarn conditioning attachment for Abbott quillers (see TI for October, 1956, p. 182) applies an even amount of fluid to each quill without wetting the rings, tangling the yarn, or smudging the filling. The amount of pick-up is controllable.

The attachment consists of an absorbent pad, mounted at the discharge plate on the quiller, onto which the quills are guided by quill supports. These supports keep the quill rings from contacting the pad, which is kept wet by a tube connecting the pad with a reservoir of the fluid.

Mona Industries, Inc., 65-75 East 23rd St., Paterson, N. J.

Do you want more data? Write ◂ or use card on page 177; list L-112

F-F knitting attachment puts lace insert in hosiery

An attachment for the Kalio full-fashioned knitting machine makes possible the knitting of a lace insert in the side of ladies' hosiery in place of a seam at the back. From a marketing viewpoint, this stocking has the appearance of a seamless stocking with the exception that the very necessity of the closing medium gives it an additional feature in that it complements the ensemble of the wearer.

The stocking is manufactured by changing somewhat the symmetrical pattern of the knitting and by knitting the heel reinforcement off center as well as off the selvages. The narrowings are also hidden in the selvage of the stocking. Left and right stockings must be knitted, and the goods faced in pairing.

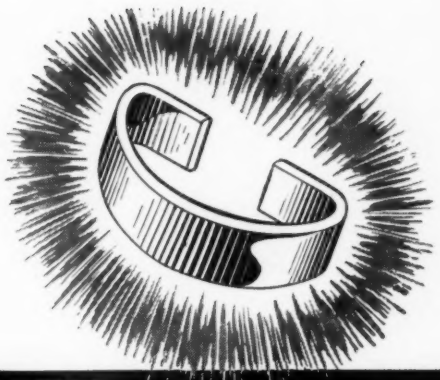
License to manufacture the stocking must be obtained from

Colleen Hosiery Co., 220 Fifth Ave., New York 1, N. Y.

Do you want more data? Write ◂ or use card on page 177; list L-113

Pneumatic control for ribbon lap machines

A pneumatic control system, which can be installed on existing Whitin or Saco-Lowell sliver lap and ribbon lap machines, makes possible the production of laps of increased quality in weights up to 38 lb (or any practical



DARY
Ring Travelers

OUR SPECIALTY!

Our specialty is making Dary ring travelers—an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

When you need ring travelers, call on our experience to aid your choice. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

...BUT A SERVICE RECORD WAS BROKEN TOO!

This ABC HAIRON CHECK STRAP gave 9,893 Loom Hours of service on a 32" wide X Model loom run ing 196 picks per minute.* It's no wonder they're the finest you can buy!

**Name of mill furnished on request.*

ATLANTA BELTING COMPANY
508-510 Whitehall St., S. W., Atlanta, Georgia

MONTICELLO BOBBINS
"Engineered for Service"

Newly designed Milling Machine cuts rounded top Dog Slots which have replaced all sawed Dog Slots on Monticello Card Room Bobbins. This milling cut results in a stronger Bobbin where most splits begin.

MONTICELLO BOBBIN COMPANY
MONTICELLO, GEORGIA

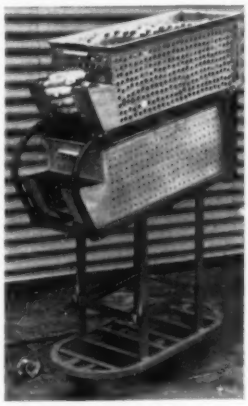
weight). The unit minimizes lap end waste.

The controls work on the principle of constant air pressure applied directly on the lap core. This pressure is adjustable to accommodate fibers of all sizes, and insures an even let-off of laps as well as unvarying tension on the fiber.

Livingston & Haven, Inc., P. O. Box 808, Charleston, S. C.

Do you want more data? Write ◂ or use card on page 177; list L-114

All-steel battery filler trucks, transports, boxes



Special battery filler trucks and filling box transports, both of all-steel construction, are designed to service weave rooms where space does not permit the installation of individual loom racks over each battery (see case history on page 89).

The transport, designed to move filling from the spinning room to the weave room, holds 10 full boxes and five empty ones. The battery filler truck can be equipped with any kind of caster, and is designed to hold two boxes.

The filling boxes are supplied separately, and are made of galvanized metal with stainless steel bottoms; or of all-stainless steel with perforations for the steaming process.

Bennett Rose Co., Box 8, Roebuck, S. C.

Do you want more data? Write ◂ or use card on page 177; list L-115

High friction spinning tape has long life

A new tape, "Supr-O-Band," for driving spindles offers improved yarn quality and increased production on twisting and spinning frames. The tough surface gives long operating life and provides high friction drive for maximum spindle speed. It can be sewed, cemented, or fastened by belt hooks.

Benjamin Booth Co., Allegheny & Janney Sts., Philadelphia 34, Pa.

Do you want more data? Write ◂ or use card on page 177; list L-116

Tufted carpet tentering system cuts waste

A tentering system for tufted carpeting automatically evens out and holds straight the edges of carpeting during the curing of the latex in the oven. The principal advantages the system offers are the control of width from the tufter to the finished carpet, and in the reduction of waste by 3% to 10%. Formerly the carpet had to be made wide enough to offset some shrinkage.

The unit is built to do a specific job, and to fit exactly as required into the existing oven installation with a minimum of change. It is not necessary to adapt the process to the machine. Each tenter is adjustable in width from 9′ to 16′ or wider.

The machines are of sturdy construction and are built

for instant response and flexibility.

Southern Textile Works, P. O. Box 406, 202 South Towers St., Anderson, S. C.

Do you want more data? Write ◆ or use card on page 177; list L-117

Noble comb features quick circle changing

Less down time, lower starting torque, less power consumption, and quieter and safer operation are features of the Mark V Noble Comb built by Taylor, Wordsworth and Co., Ltd., Leeds, England. One man can change the circles quickly without undue physical exertion; no overhead cranes are needed.

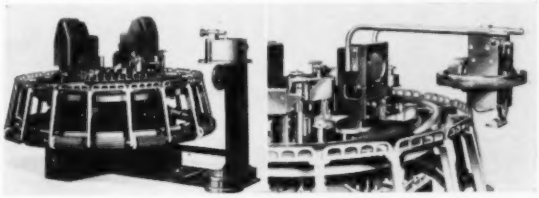
An electrically operated stop motion stops the comb in the event of sliver breakage. The comb can be inched for repairing the sliver break, but cannot be started until the break is repaired. Mechanical pumps lubricate the dabber (eccentric shafts turn on roller bearings) and a sight glass permits the oil flow to be checked. There is no oil splash.

The coiler, driven by a shaft at floor level, is equipped with a head light enough for a female operative to raise it easily.

A patented automatic feed knife can be quickly reset, and will not lock when the blade reaches the top of the traverse. The working parts of the knife operate under fully lubricated conditions and are sealed against possible fly entry.

Essential parts of the ball traverse motion are totally enclosed. Each pair of bobbins can be disconnected quickly from the traverse motion when required. By driving the rack from only one point, a line of gears is eliminated.

Driving is accomplished by a 4 hp motor mounted on the base plate. From it a V-belt drive turns a cross shaft which also is mounted on the base plate and turns in ball bearings. There is none of the vibration associated with the older models.



Left, over-all view; right, how circles are changed.

Atkinson, Haserick & Co., Inc., P. O. Box 509, Framingham Mass.

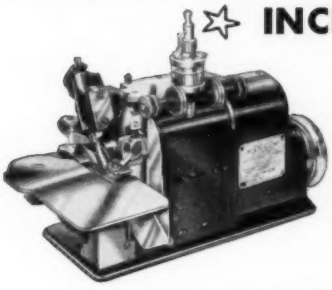
Do you want more data? Write ◆ or use card on page 177; list L-118

High production cord knitting machine

The Kensington cord knitting machine, made by Fletcher Bros., Ilkeston, England, contains 40 heads which can be stopped or started individually. Furthermore, the heads can be run simultaneously on different yarns and with different numbers of needles — interchangeable

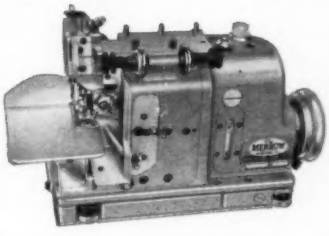
MERROW *OVERSTITCHING MACHINES*

☆ INCREASE PRODUCTION ☆ CUT COSTS



CLASS A MACHINES

Versatile . . . rugged . . . economical. Job-proven performers on a wide range of applications (including shirring).



CLASS M MACHINES

For a variety of overstitching operations where automatic lubrication is desired.

AVAILABLE WITH SEVERAL MODIFICATIONS, BOTH CLASSES OF MERROW OVERSTITCHING MACHINES TURN OUT BETTER PRODUCTS FASTER BECAUSE THEY FEATURE:

- **HIGH PRODUCTION** — Assured by high operating speeds . . . thoroughly tested and *proven* engineering design . . . traditionally rugged Merrow construction.
- **ADAPTABILITY** — Extensive interchangeability of parts permits conversion to a wide variety of operations.
- **QUALITY STITCHING** — Precision thread handling reduces breakage, assures uniformly accurate stitch formation.
- **OPERATOR CONVENIENCE** — Unobstructed visibility of work, ease of operation and accessibility reduce operator fatigue . . . increase output.

We will be glad to demonstrate the work of these machines on your own sample garments or fabric swatches.

TRADE MARK REG

The **MERROW**

MACHINE COMPANY

ESTABLISHED 1878 INCORPORATED 1900

2805 LAUREL ST. • HARTFORD, CONN. • U.S.A.

Let
SHAMROCKS
help you

Photo shows No. 12 leather reinforced Doff Baskets in use at a large Southern textile mill. Baskets are loaded with yarn that is being dumped into spooler.

Every hour you save with Shamrocks means another hour of production! That's why sturdy Shamrock Baskets . . . preferred in textile plants everywhere . . . pay for themselves many times through their long service life. The No. 12 Shamrock Doff Basket is "built to take the knocks", from its leather-reinforced canvas body to its smooth hardwood runners. Let a Shamrock representative survey your plant and recommend the right Shamrock styles for your particular needs! Manufactured by MEESE, INC., Madison, Indiana.

SALES OFFICES: NEW YORK—F. R. Tyroler, 55 West 42nd St., PE 6-0615; ATLANTA—W. E. Patway, 2577 East Densley Dr., North Decatur, Ga., ME 6-3192; FORT WORTH—V. M. Hooton, 4220 Normandy Road, Tel. Jefferson 6-6564; WEST COAST—Petersen-Daniels, Inc., 3311 Beverly Blvd., Montebello, Calif., RAymond 3-7003. Export Mgr.—R. A. Auerbach, Easton, Pa. Cable Address "Natly."

SHAMROCK
CANVAS BASKETS • HAMPERS • TRUCKS

heads contain 4, 6, or 8 needles.

Production, depending on the yarn count, is as high as 7 feet per head per minute: 5600 yards per hour on a 40-head machine.

Other Fletcher Bros. machinery available includes: Duralumin creels, spring cone holders, warping mills, warp clips and rails, traverse mills, drums and beams, and pattern links.

R. J. Dealy & Sons, 263 Summer St., Boston 10, Mass.

Do you want more data? Write ◂ or use card on page 177; list L-119

Polyester dye series easily applied

A series of polyester dyes, in eight colors plus black, is available for application to tow, tops, stock, or fabrics. Dyeing procedures recommended for handling the dyes are those already in general use. Carriers or dyeing assistants (orthodichlorobenzene, etc.) are required except for high temperature dyeing (250 F) carried out under pressure.

Fabrics of 100% polyester filament fiber can be dyed in jigs; those of spun polyester yarns, alone or blended with cotton, viscose, or wool, can be handled in dyebecks.

Eastman Polyester Blue GR, Blue GLF, Blue 3RL, and Navy G all have excellent fastness to light, dry cleaning, wet pressing, sublimation, and washing. Black RB is a diazo type of black which gives, on development, full shades of black fast to light and washing.

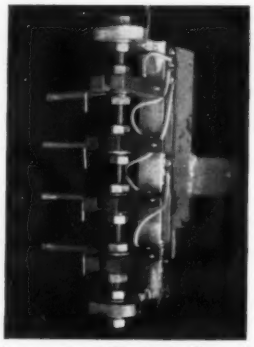
Red 2G and Yellow W are fast to light, washing, dry cleaning, and sublimation.

Yellow 5R has tinctorial value for dark brown and green shades, and excellent fastness to light, washing, dry cleaning, and solvent spotting.

Eastman Chemical Products, Inc., 260 Madison Ave., New York 16, N. Y.

Do you want more data? Write ◂ or use card on page 177; list L-120

Filling stop motion for 4 x 4 looms



A feeler stop motion for 4 x 4 box looms helps produce better cloth at lower costs by preventing half picks. The weaver no longer has to watch the filling as it runs out.

When a shuttle, in which the yarn is about to be exhausted, is sent from a box equipped with the feeler, the motion stops the loom with the shed open and the lay approximately in the back position. It operates on any type of quill, including the backwound.

A.D.L. Co., 156 N. Seventh St., Paterson, N. J.

Do you want more data? Write ◂ or use card on page 177; list L-121

Beamer prepares Raschel warps of any width

The Kensington beaming machine, made by Fletcher Bros., Ilkeston, England, is designed to prepare warps for laying-in yarns on both Raschel knitters and Levers

lace machines. The beamer will accommodate any length of beam.

A 50% variable speed motor is controlled by a footboard running the length of the machine. The drive is transmitted to the beam by means of an adapter to the left hand side. The other end is contained in a spring-loaded tailstock which is adjustable to the beam length.

A yardage or meter clock is included by which the amount of yarn to be wound can be set. The machine will stop automatically when this figure is reached.

R. J. Dealy & Sons, 263 Summer St., Boston 10, Mass.

Do you want more data? Write ◂ or use card on page 177; list L-122

Spot picker lap troubles quickly

The Thomason electronic lap tester uses a Uster Varimeter as the measuring head to permit laboratory testing of picker laps. The unit permits measuring short term variation with a Uster Integrator, or directly from Uster charts; and permits measuring yard by yard variation and average weight per yard directly from the Uster Varimeter dial. Sources of irregularity are quickly spotted through the exact correlation between the speed at which the lap is tested and the speed of the recorder.

For mills spinning both synthetics and cotton, the tester can be furnished with a two-speed drive to enable the testing of cotton at 4 ypm, and synthetics at 2 ypm.

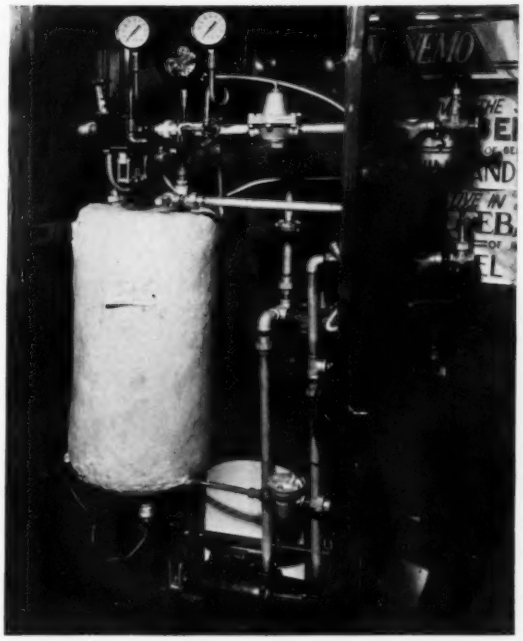
The tester is of all-steel construction, is equipped with anti-friction bearings, has a built-in ¼ hp motor, and a drive which permits exact control of the testing speed and lap tension.

Thomason Textile Service, Inc., 2233 Greene St., Charlotte 8, N. C.

Do you want more data? Write ◂ or use card on page 177; list L-123

Lap or felt sheet thickness controlled by X-ray

The XactRay Gauge uses X-ray beams in measuring and controlling the thickness of cotton "batting" and felt sheets with a quantity control accuracy of one per cent of predetermined standards. The gauge operates over



THE NEMO JET COOKER*

★ **ELIMINATES LABOR**
permitting mixing as large a volume of size as facilities will permit and maintaining this mixture for several days, over week-ends, or for any required length of time.

★ **COOKS INSTANTANEOUSLY**
no size is cooked until it is ready for use; no cooked size is stored—eliminating the need for large jacketed kettles.

★ **SAVES SIZE AND SIZING MATERIALS**
because the size is cooked instantaneously and only as needed, there is no waste because of size being stored and going sour, or working up "too thin".

★ **HANDLES HIGH PERCENTAGE OF SOLIDS WHERE NECESSARY**
in finishing plants, mixes carrying a high percentage of solids are handled without difficulty or wear.

★ **SAVES POWER**
since power for pumping is minor, and since no constant stirring of heavy cooked size is necessary; the NEMO JET COOKER itself uses less power than an electric light bulb.

★ **ELIMINATES MAINTENANCE COSTS**
there is almost nothing to wear out!

★ **VISCOSITY IS ALMOST CONSTANT**
as shown by the most accurate recording meters in actual test.

ASK FOR A DEMONSTRATION INSTALLATION AT YOUR MILL AND AT NO COST TO YOU

See for yourself the results of a test run of a few hours, or a few days, *without* disturbing the normal size preparation equipment in your mill. Write for descriptive literature and free demonstration today!

NEMO INDUSTRIES, INC.
3133 MAPLE DR., N.E. ATLANTA 5, GA.
PHONE EX 1947

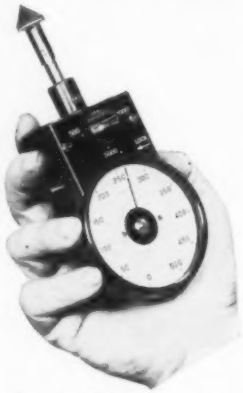
*PAT. APPLIED FOR

SMITHS TACHOMETERS

For Precise and Rapid Measurements of

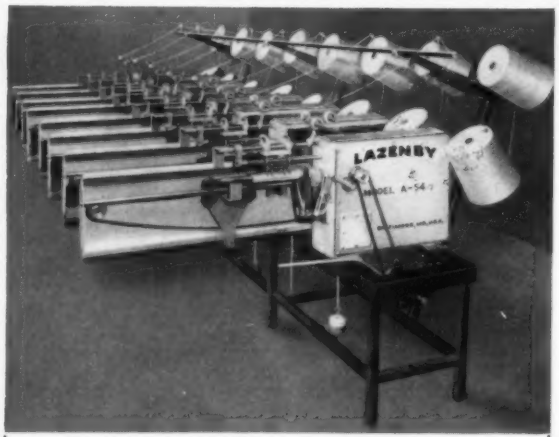
- **Magnetic Design** Steady readings accurate to ±0.5% at any part of any scale.
- **Instantaneous Reading** No timing or waiting.
- **Self-Powered** Needs no battery. Always ready for immediate use at full accuracy.
- **Nine Ranges** To 50,000 rpm on highest. Interpolate tenths of rpm on lowest.
- **Overspeed Protection** Inherent and built-in.
- **Hold Button** "memorizes" reading when desired.

SHAFT SPEEDS
SURFACE SPEEDS
CUTTING SPEEDS



Complete Service Facilities
Send for Details and Literature

CLARENCE J. MARX CO.
Box 4033, Cleveland 23, Ohio



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Labor saving (80%)
High production
Easy changeover
Quick adjustment
Dial control
Precision in manufacture for long life
Timken bearing equipped

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The F. A. LAZENBY Company
3106 Elm Ave. Baltimore 11, Md.

wide sheets of material when installed on traversing carriages. Scanning thus can be done manually, or automatically and continuously, without interfering with processing.

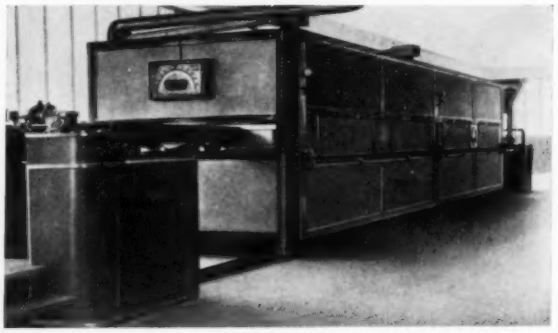
Being a non-contact type, the gauge employs the energy of the X-ray beam by transmitting the rays through the material being measured, and collecting the rays in a receiving unit. The energy collected is converted into electrical impulses which, in turn, actuate the electronic equipment in a main console. From the console equipment it is possible to actuate a large scale zero centered meter, a continuous chart recorder, or an electromechanical device for actuating rollers, etc., to automatically control the thickness of material being processed.

Industrial Gauges, West Englewood, N. J.

Do you want more data? Write ◂ or use card on page 177; list L-124

Tenter drys with high speed, gentle action

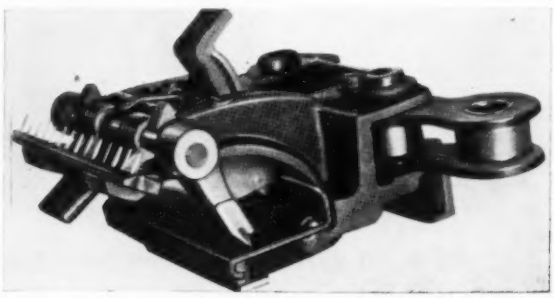
The Vits Drying Tenter, using a single-jet drying system, features uniform treating of materials at higher speeds, and thus provides savings in floor space, labor,



and power consumption. A 30-foot tenter will evaporate about 1300 lb of water per hour. The tenter can be used generally in the drying, finishing, curing, polymerizing, and controlled shrinkage of textile fabrics.

Axial fans in the single-jet drying section circulate quantities of air with low power consumption, while the single-jets themselves prevent the formation of stagnant air layers or pockets within the tenter. The drying mixture medium of 65% steam and 35% air at 300 to 400 F is effective in preventing the oxidizing, yellowing, overdrying, or any weakening effect on the fabric. For curing, the temperature can be raised to 500 F.

The combination pin and clip chain operates with automatic changeover in either direction so that any type of



fabric can be handled. It is so designed that the fabric is mounted on the pin plate below the pivot of the suspension link, thus providing better pinning-on of the

fabric and avoiding undue tension. Another feature of the clip is the conformation of the faller edge angle to the inclined lip angle. Cloth is introduced between the lip and the faller with a very low impact which does not damage the selvage of the cloth but merely locks it in. Chain links are constructed of the finest possible materials so that speeds of 300 yd/minute are possible without mechanical difficulty.

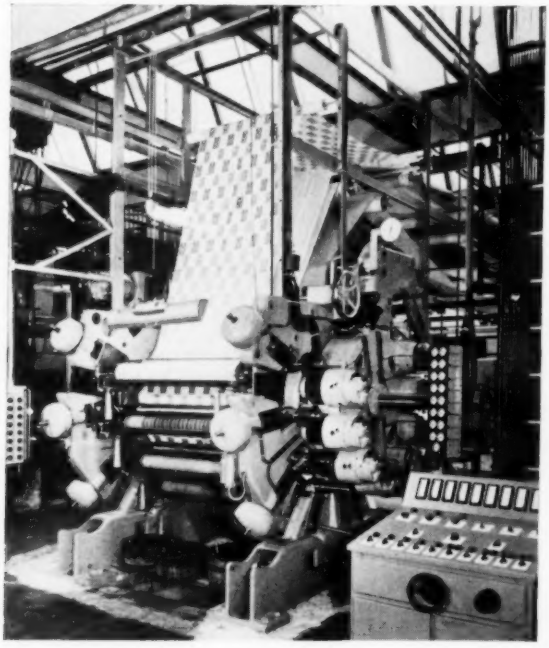
The feed end can be provided with mechanical and/or pneumatic edge feelers which permit quick, correct pinning-on of the fabric even at highest speeds. This pneumatic edge feeler will also function satisfactorily on light curtain and warp knit fabrics. Overfeeds of 40 to 45% are possible with the Vits overfeeding apparatus. At the delivery end batching is done immediately over the chains to avoid curling selvages of warp or tricot knit fabrics. A hyperbolic batching unit is an accessory that is a new development for controlling fabric tension on a graduated scale. Specific steam consumption in the Vits tenter is 1.4 lb per lb of water evaporated per hour.

Cosa Corp., 405 Lexington Ave., New York 17, N. Y.

Do you want more data? Write ◆ or use card on page 177; list L-125

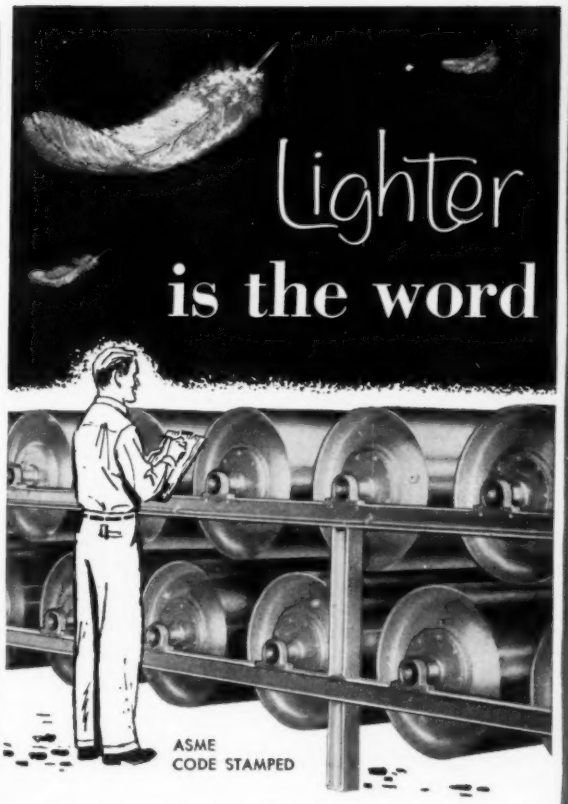
Get up to 165 ypm on 12-color roller printer

Now available through a supplier in the United States is a high-speed (up to 165 ypm) roller printer which offers, due to adjustment features, a low percentage of



seconds. Production on average patterns is up to three times the output of older type roller printers. The machines are built by Joh. Kleinewefers Soehne, Krefeld, Germany.

Adjustment of the vertical pattern register is accomplished, at all speeds, by push button control from the printer's stand. Independent pressure regulation is provided on both sides for each printing roller; exact readings of applied pressure is another feature. The machines are available for 2, 4, 6, 8, 10, and 12 colors and repeats



There's no point in pulling extra weight in old flat heads, now that the new Sims Stainless Steel 75 psi reverse dished head Dry Cans* are available They aren't featherweights, true . . . but they're *lighter . . . easier on the bearings . . . require much less horsepower and space.* Bearings, drive chains and belts give longer, smoother performance with less costly down time, since the lighter the load, the longer they last. These new Sims Dry Cans give uniform transmission of heat and efficiently eliminate steam condensate. Furnished Teflon-coated if desired.

For ECONOMY and QUALITY

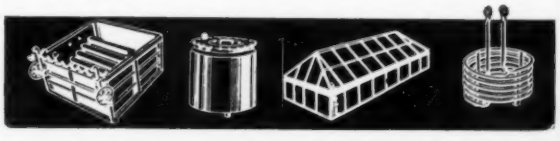
Our modern and progressive metal-working shops, skilled craftsmen and know-how — these are your guarantees of quality. For custom tailoring of stainless steel, call, wire or write now.

Fabricators Since 1928

Sims METAL WORKS

WEST POINT, GEORGIA

*PATENT PENDING



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Genuine ALLEN Beam Heads and Parts
Tires tightened and new Tires
applied to wooden beam heads
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A
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Industrial
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such as:
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THOMASTON • GEORGIA
NEW YORK OFFICE: 40 WORTH STREET
Phone: WOrth 2-6730

ranging from 15" to 28".

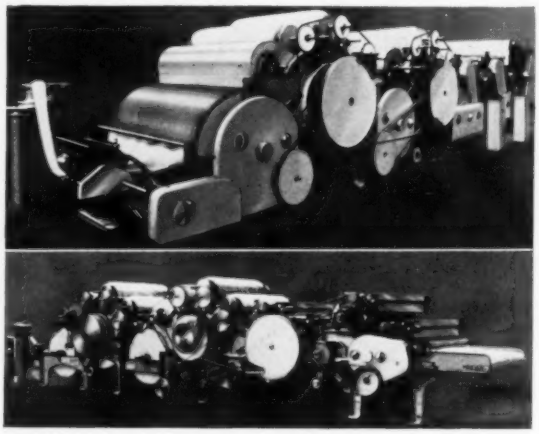
Among the other features are: roller bearings for the printing mandrels; oscillation speed of doctor blades independent of cloth speeds; correct gear mesh without changing gears obtainable for differences in repeats up to 4"; and completely enclosed gears to ensure safe operation.

The Foram Corp., 15 Moore St., New York 4, N. Y.

Do you want more data? Write ◆ or use card on page 177; list L-126

Wider worsted card uses less floor space

A narrow worsted card, with 60" width on the wire, has an over-all width which is less than that of the standard 54" card. Ten such cards can be substituted for ten existing 54" cards, and will give 60-65 lb per hour greater



production for the same floor area and the same number of operatives.

Made by Platt Bros. (Sales) Limited, Oldham, England, the card utilizes narrow belting to allow the drives to the dividers and tighteners to be driven by one chain which is easily removed for stripping. As a result, adjustment points are easier to reach and can be set more quickly.

As a further consequence of the alteration of the drives, machine guarding is made simpler, cleaner, and easier to remove for machinery adjustment.

Atkinson, Haserick & Co., Inc., P. O. Box 509, Framingham, Mass.

Do you want more data? Write ◆ or use card on page 177; list L-127

Equipment Briefs

Floor coating not affected by oil, gasoline, etc. A decorative and protective coating for floor surfaces, Colorflex Plus AWA, is suitable for use on practically all surfaces — inside or outside — such as wash rooms, engine rooms, factories, etc. The finish is resistant to the alkali content of cement, and is not affected by storage battery acid, water, mineral oils, grease, or gasoline. The penetrating synthetic base adapts it to wood, brick, composition, and other surfaces. Colors: red, brown, green, gray, and clear.

Flexrock Co., 3652 Cuthbert St., Phila. 1, Pa.

Do you want more data? Write supplier or use card on page 177; list L-201

Plastic pipe not damaged by freezing. A non-toxic,

pressure-proved, general-purpose flexible plastic pipe, for piping water and other fluids, features low cost, ease and speed of installation, and permanence. Lime and algae cannot adhere to the smooth inner bore of the pipe. An 800' line of ½" pipe can be laid with only one fitting. The pipe is highly resistant to acids, alkalis, and other corrosive chemicals and is not subject to electrolytic corrosion — immune to rot or bacterial attack. The pipe may be used at temperatures from 50 F below zero to 125 F, and is not damaged by freezing.

American Hard Rubber Co., 93 Worth St., New York 13, N. Y.

Do you want more data? Write supplier or use card on page 177; list L-202

Larger lacer hook for heavy belts. A belt hook, No. 7, for use with belts 3/8" thick, but not over 13/32" thick, features a double-staggered grip to provide even distribution of hook-point pull on the belt. It provides long service on heavy-duty 2-ply leather belts, and on 6 or 7-ply rubber-composition belts; and easily withstands pulls up to 125 lb per hook.

Clipper Belt Lacer Co., Grand Rapids 2, Mich.

Do you want more data? Write supplier or use card on page 177; list L-203

Bright colors on cotton and rayon from naphthol dye. Fast to chlorine and peroxide, Naphthol AS-LG, a substantive naphthol, produces shades from bright yellow to cordovan on cotton and rayon. The colors are clean, bright, uniform, and dependable, and can be beam, warp, and package dyed for use in ginghams, checks, chambrays, and knitted goods.

Blackman-Uhler Co., Spartanburg, S. C.

Do you want more data? Write supplier or use card on page 177; list L-204

Fabric cutting machines do not fuse edges. Two cutting machines of the "Plastic Master" line are especially designed and engineered for the cutting of all types of synthetics and blends, plastic film and supported plastics, laminated fabrics, and chemically treated and coated materials. Through the use of different motor speeds, various sharpening elements, high-speed steel knives, and other means, the new cutters overcome the fusion of cut edges, the adhesion of chemicals to the cutting knife, and the hardness of some new yarns.

Eastman Machine Co., 779 Washington St., Buffalo 3, N. Y.

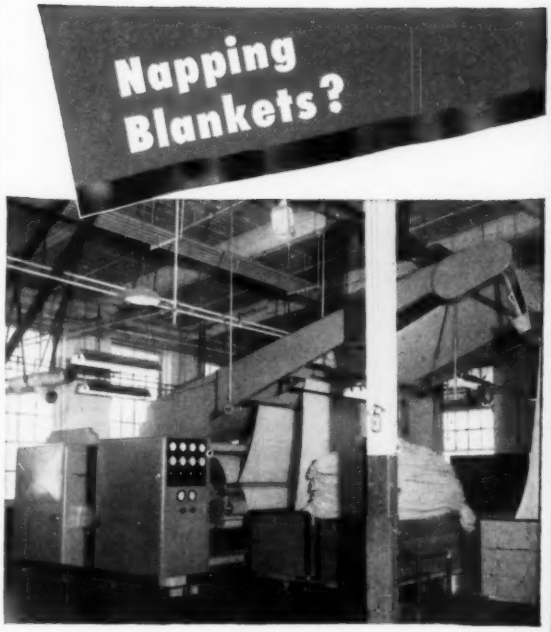
Do you want more data? Write supplier or use card on page 177; list L-205

Pneumatic strapper uses less air. The "Jet," a four-pound pneumatic strapping tool for textile packages, features: unlimited strap take-up; preset tensioning equal to competitive tools using more air pressure; and a quiet motor with a built-in muffler that reduces whistling. Housed in magnesium, the strapper fits comfortably in an operator's hand. Its featured start-stop throttle controls, one each on side and top, are within easy finger-tip reach.

The Stanley Works, Steel Strapping Div., New Britain, Conn.

Do you want more data? Write supplier or use card on page 177; list L-206

Light-weight lift truck. A gas-powered lift truck designed specifically for quick stacking of loads up to 1000 lb in the narrowest storage aisles may be used on old floors, elevators, and truck beds where the heavier,



Only EXACT Controllable Power

can produce the effect you want, so quickly

The face and back Hi-Torc Blanket Napper you see here — built by Gessner to nap opposite sides in ONE run — gets into the fabric to the proper depth and rapidly plucks from the start.

Hydraulically operated, the Hi-Torc Napper in tandem produces immediate and controlled power to obtain the precise napping effect you desire. The entire napping range is pin-pointed on the panel dials in front of the operator. Once the amount of napping energy is indicated in terms of pounds of pressure, then this energy can be maintained, run after run, day after day, regardless of heat and cold, humidity changes, dirt or flock — all enemies of ordinary napping power transmission.

Gessner has made possible the control of the cloth tension and the napping effect of both machines from this one panel. Instead of multiple runs, a single breaking, raising and finishing run on this Hi-Torc machine produces a finished blanket.

Hi-Torc is making blanket history. May we tell you more about it?

DAVID GESSNER CO.

WORCESTER, MASS.

Canadian Representative: W. J. Westaway Montreal, Quebec; Hamilton, Ont.

Gessner takes the guesswork out of napping.

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Textile Bobbin Works
Ragan Ring Co. and
Kearney Mfg. Co.

Contact him for our fine Resin Treated Long Draft Aprons.

Russell A. Singleton & Sons
Blanco, Texas

P. S. This Rogues Gallery will be continued next month.

NEW! Here's a solvent cleaner just perfect for textile mills

It's Oakite 117 – a cold cleaning solvent that's custom-tailored for use on looms, twisters, reed parts and other textile equipment.

CLEANS FAST. Especially effective on combinations of lint, grease, oil and smut.

DRIES DOWN quickly and completely under air blow-off or wiping.

HIGH FLASH POINT. You get safety to spare.

And low cost adds a straight dollars-and-cents advantage to Oakite 117. Want more details? Write to Oakite Products, Inc., 26C Rector St., New York 6, N. Y.

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larger trucks cannot be used. The Handler Fork Lifter can stack loads 30" long in aisles as narrow as 42". It lifts a load 12 ft in 16 seconds. The mast can be lowered to 69". All operations are controlled by a single lever.

The Colson Co., Elyria, Ohio.

Do you want more data? Write supplier or use card on page 177; list L-207

Gauge for testing delicate springs. A Spring Tension Gauge, for testing springs in delicate applications, registers tensions in grams. When properly used, the accuracy of the gauge will remain constant, providing a definite and extremely dependable standard of measurement.

P. K. Neuses, Inc., West Euclid and Dwyer Streets, Arlington Heights, Ill.

Do you want more data? Write supplier or use card on page 177; list L-208

Neoprene seals guard caster bearings against dirt. Especially adapted for use in the textile industry, grease sealed casters, the Faultless 900 series, have a molded neoprene seal around their swivel bearing raceways, a formed steel cup fitted around the lower thrust bearing raceway; and neoprene rings molded to metal washers used on both sides of the wheel hub for complete protection of all bearings. Dirt, lint, and water are kept out of bearing areas, while lubricant is kept in. Lubricant does not drop on floors even when casters are exposed to higher-than-normal temperatures.

Faultless Caster Corp., Evansville 7, Ind.

Do you want more data? Write supplier or use card on page 177; list L-209

Dullers are easily dispersed in warm water. Wicatex Duller 3192 is a 50% cationic colloidal dispersion of titanium designed to give even exhaustion, a high degree of light reflectance, and softness of handle to synthetic fabrics and fibers. The preparation disperses easily in warm water, has a marked decrease of surface sheen, and is durable. Wicatex Duller 3140 is a 25% anionic compound equally effective in light reflectance value. It is an economical assistant generally employed in accepted finishing mixes.

Wica Chemicals, Inc., P. O. Box 506, Charlotte, N. C.

Do you want more data? Write supplier or use card on page 177; list L-210

Non-sudsing cold water shampoo for carpets. A liquid synthetic detergent carpet cleaner, Artloom's Carpet Shampoo, is immediately soluble in hard or soft cold water (dilution ratio: 1 to 12-16) and is adaptable to both in-plant and on-location use. The cold water method keeps shrinkage and dye bleeding to a minimum. It has a controlled sudsing action which protects baseboards and wallpaper from spotting and prevents the mess from flying suds. The cleaner is colorless, odorless, non-toxic, non-inflammable, and fast-drying. It has proved effective on all fibers without "browning."

Artloom Carpet Co., Chemical Products Div., Howard St. and Allegheny Ave., Philadelphia 33, Pa.

Do you want more data? Write supplier or use card on page 177; list L-211

Non-sludging high-temperature grease has many uses. A high-melting-point (recommended up to 250 F), short-fibered grease, Sun N-52X, is engineered to lubricate plain bearings and antifriction bearings where high temperatures are involved, such as in electric motors. Some other uses are for open bearings operating under high temperature conditions, and bearings of lifetime-lubricated equipment. The grease resists oxidation and does not form sludge. Normally it never needs replacement; addition of new grease is sufficient. It will ab-

sorb normal moisture before it can reach bearing surfaces.

Sun Oil Co., Philadelphia 3, Pa.

Do you want more data? Write supplier or use card on page 177; list L-212

Liquid process pumps have interchangeable features. Most chemical process liquids can be pumped through pump Types DL and DM at temperatures up to 400 F. The pumps are designed to deliver up to 800 gpm, and to pump against heads up to 400 feet. They are offered in oil or grease-lubricated types (oil type for temperatures up to 400F) and are equipped with cooling connections where needed to keep the lubricant and packing temperature under limits. The interchangeable parts such as impellers, volute cases and back plates add flexibility while keeping inventories low.

Peerless Pump Division, Food Machinery and Chemical Corp., 301 West Ave. 26, Los Angeles 31, Calif.

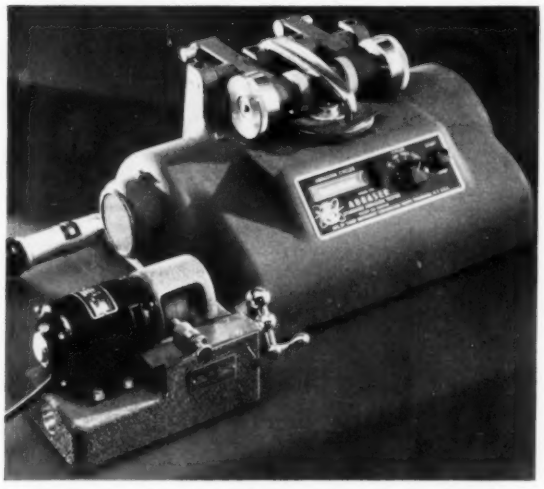
Do you want more data? Write supplier or use card on page 177; list L-213

Cationic dye for Orlon. "Sevron" orange G produces a bright yellow shade of orange on Orlon, with very good fastness to light and wet processing. This dye can be applied from acid or relatively neutral dye baths over the pH range of 4.0 to 8.0 without affecting its shade. It is particularly recommended for use in the production of certain heavy shades on Orlon type 42, such as bright shades of deep red in conjunction with "Sevron" Brilliant Red B.

E. I. du Pont de Nemours & Co., Inc., Dyestuff Div., Wilmington 98, Del.

Do you want more data? Write supplier or use card on page 177; list L-214

Automatic abrasion tester for wet or dry surfaces. The resistance to surface abrasion of materials under cold, wet, and dry conditions can quickly be evaluated accurately by the use of the automatic Model 174 Taber

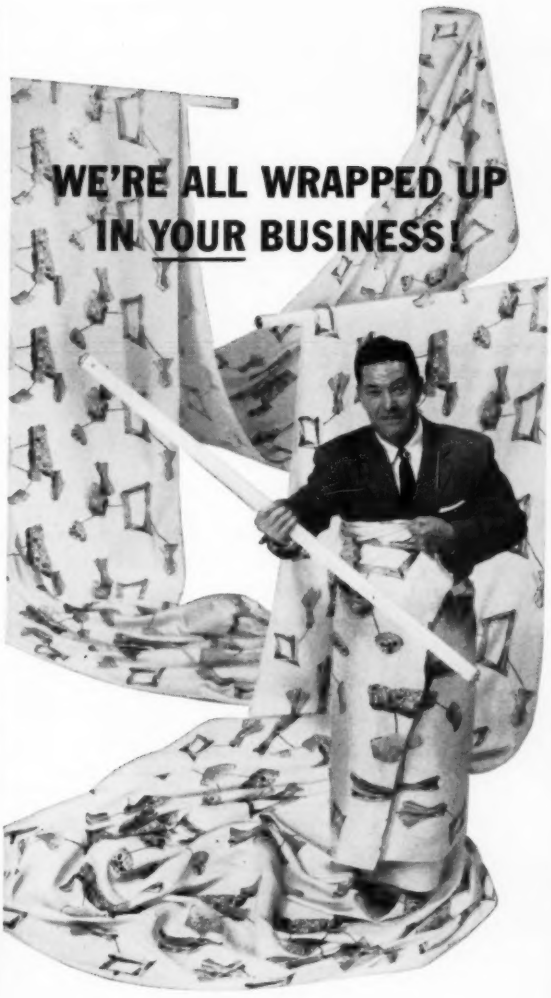


Abraser. Dual abrading wheels traverse a complete circle on the surface to be tested. Test materials are held in place by a variety of holders which accommodate sheer silks as well as heavier fabrics.

The Taber Instrument Corp., 111 Goundry St., Section 24, North Tonawanda, N. Y.

Do you want more data? Write supplier or use card on page 177; list L-215

Fast diazo scarlet for discharge work. Diazamine Fast Scarlet 3GWL Pat. excels in brightness and suitability for discharge work by neutral and alkaline methods. It



Where color and texture are vital, lighting is vital. That's why General Electric lighting engineers have made the textile business their business.

In one textile mill, a $45,000 shipment of cloth was recently returned because it was graded wrong according to color. G-E lighting engineers were called in. They relighted the grading areas to give the right light, of the right color, in the right place to make it virtually impossible for such a costly error to re-occur.

General Electric has trained specialists in lighting for the textile industry. Why not benefit from their specialized knowledge. Contact your local G-E distributor for the latest information on how you can increase the efficiency of your mill—increase your profits—with planned lighting. Or write directly to Large Lamp Dept., General Electric, TI-11, Nela Park, Cleveland 12, Ohio.

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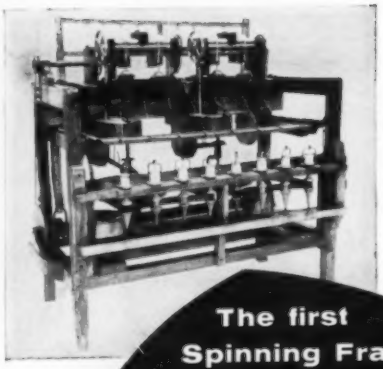

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1775

Sir Richard Arkwright's original spinning frame used flyers. Rings and travelers came into general use in the 1830's, not many years before DIAMOND FINISH began making the line of rings which today stands for the FINEST in modern ring practice.

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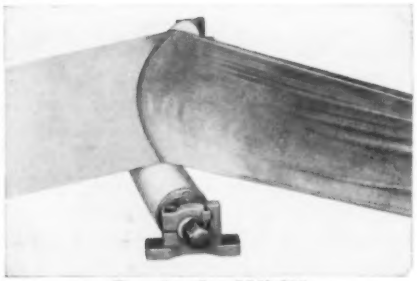

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is especially recommended for dyeing cotton and acetate fabrics when a clean acetate reserve is desired. It also has the property of covering dead cotton. Developed with beta naphthol, it exhibits good fastness to water, washing, and perspiration. Suitable for treatment with crease-resistant finishes.

Sandoz Chemical Works, Inc., 61-63 Van Dam St., New York 13, N. Y.

Do you want more data? Write supplier or use card on page 177; list L-216

Sewing thread resists chemicals and heat to 500 F. "Fluorglas" sewing thread, for all types of heat and chemical-resistant fabrics, is chemically inert to all known acids, solvents, alkalis, and fuels in temperatures of 500 F. It is fungus-proof, moisture-proof, and is unaffected by rodents and insects. The "Teflon" provides good knot strength, combats the tendency of glass fibers to abrade, and increases tensile strength to that of equivalent-size filaments of steel. It can be woven, bent, braided, or run through sewing machines without damage. The thread is available in a variety of sizes, weights and colors. .

Dodge Fibers Corp., John St., Hoosick Falls, N. Y.

Do you want more data? Write supplier or use card on page 177; list L-217

Shrinking range with rubber belt. A complete shrinking range comprising tension control unit, cloth conditioner, clip expander, rubber belt shrinking unit, and finishing section features improved design of the rubber belt unit, simplified drive, and new cooling unit. Also available is conversion equipment to change older shrinking ranges to rubber belt shrinking ranges.

Cook P & N Machine Co., 364 Dorchester Ave., Boston 27, Mass.

Do you want more data? Write supplier or use card on page 177; list L-218

Gray vat dye for cottons or rayons. Producing bluish-gray to black shades, "Ponsol" Gray N is of value for making medium-gray to charcoal-gray shades for use in dress goods, shirts, and industrial uniform materials; or for other uses requiring good fastness to light, chlorine, washing and other dye destroying influences. It is especially recommended for dyeing piece goods by pigment-reduction methods employing pad-jig techniques.

E. I. du Pont de Nemours & Co., Dyestuff Div., Wilmington 98, Del.

Do you want more data? Write supplier or use card on page 177; list L-219

Nylon-filled conveyor belts "strong as steel." A conveyor belt made with five plies of "Nyfil 120-RS," a nylon-filled fabric, is "as strong as a steel cord belt rated at 1000 lb per inch per ply." The belt "muscle" is supplied by a combination of rayon with nylon filler which permits belt operating tensions up to 200 lb per inch per ply width. Belts made with the resilient nylon filler have exceptional flexibility for better troughing and outstanding resistance to impact. A further improvement is in the greater strength (crosswise) for holding mechanical fasteners. The belts are available in both light and high tension weights.

B. F. Goodrich Industrial Products Co., Akron, Ohio.

Do you want more data? Write supplier or use card on page 177; list L-220

Differential feed sewing machines. Two additional Union Special sewing machines, Styles 39500 F and 39500 G, are differential feed units for blind stitch hemming and welting on light-to-medium knit goods of cotton, silk, or synthetics. Though the machines are similar in design, Style 39500 G is equipped with a knee-operated retractable folded edge guide to augment

the spring-pressed hem guide finger which in itself compensates for limited variations in thicknesses such as hems. The machines are automatically lubricated, and possess a needle design which resists deflection and permits the needle to enter the fabric almost vertically.

Union Special Machine Co., 400 N. Franklin St., Chicago 10, Ill.

Do you want more data? Write supplier or use card on page 177; list L-221

Acrilan whitener saves a step. The fluorescent dye, Calcofluor White 4BT, is an effective whitening agent for Acrilan. It does not require an extra application step after bleaching, and has superior light fastness to most of the optical bleaches recommended for use on this fiber. The agent may be applied to Acrilan during the bleaching operation by adding it either to the sulfuric acid pretreatment or to the Textone bleach bath.

American Cyanamid Co., Bound Brook, N. J.

Do you want more data? Write supplier or use card on page 177; list L-222

Sewing thread for all climates. A nylon monocord thread, Nymo UVR (ultra violet resistant), is practically impervious to polar cold or tropical heat, damage by storms or chemicals, and is particularly effective in prolonging the life of any type of canvas or other coverings, including clothing.

Belding Corticelli, 350 Fifth Ave., New York 1, N. Y.

Do you want more data? Write supplier or use card on page 177; list L-223

Automatic overhead dispatch system for entire plant. The R-W "Twin-Trak" overhead automatic dispatch system provides automatic-selective control over the movement of material to predetermined areas of an entire plant. Material may be drawn from banks or lines and distributed automatically to each work station.

Richards-Wilcox Mfg. Co., Aurora, Ill.

Do you want more data? Write supplier or use card on page 177; list L-224

Vat dye fast to bleach and kier boil. An anthraquinone brown, Sandothrene Red Brown N2RF Paste Ultrasperse, yields shades fast to kier boiling and bleaching at minimum cost.

Sandoz Chemical Works, Inc., 61-63 Van Dam St., New York 13, N. Y.

Do you want more data? Write supplier or use card on page 177; list L-225

Textile cutter with great accuracy. A cutoff machine, Model 30A Length Controller, is used to cut to length (from a fraction of an inch to several hundred feet) textile material, rubber, plastics, etc., with an accuracy of 4/100 of 1%. Length control is provided for strips, sheets, and tapes of all descriptions. Length adjustment is quickly and easily made by the setting of the micrometer handle on the length controller.

Graham Transmissions Inc., Menomonee Falls, Wis.

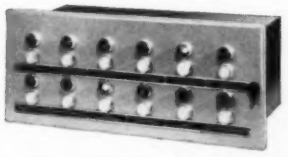
Do you want more data? Write supplier or use card on page 177; list L-226

Defoamer does not boil out. A fast-acting, stable silicone defoamer, Antifoam B, is generally effective at concentrations in the range of 3 to 30 parts per million. Instantly dispersible in aqueous systems, it may be added "as is" without stirring or agitation. Because it has extremely small particle size, it also stays in suspension longer. It will not boil out, plate out, settle or precipitate in most applications. Resistant to heat or cold, it retains its effectiveness even after being frozen or boiled.

Dow Corning Corp., Midland, Mich.

Do you want more data? Write supplier or use card on page 177; list L-227

Panalarm Annunciator Systems Detect Off-Normal Conditions For Immediate Corrective Action



In any process, or on automatic or semi-automatic machinery, the immediate correction of off-normal conditions can greatly reduce rejects. Panalarm Annunciator Systems are modern working tools permitting closer equipment control by operating personnel.

The Panalarm Annunciator is a coordinated, multiple-unit signal system that provides instantaneous detection of off-normals at predetermined control points. Alerting signals are both visual (illuminated windows or bullseyes) and audible (horns, bells, etc.). Modular component design and circuit flexibility permit systems to be engineered to your specific requirements and allow simple modification for future needs.

Dependable operation of the Panalarm Annunciator System is assured by heavy-duty, instrument-type construction throughout. Complete pre-wiring permits easy installation. Write for Bulletin 100A.

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For more than a century, Rodney Hunt machines have helped the textile industry maintain high production and quality at a profit. Licensed under both Becco and DuPont patents, Rodney Hunt maintains a continuing program of research and development in collaboration with these and other companies to give the textile industry the benefit of the most modern processes and equipment.

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Agers • Pad Steam Dye Ranges
Tensitrol® Steamers
Tru-Shade® Combination Washing and Dyeing Kettles
Tru-Shade Sample Dye Kettles
Tru-Shade Dye Becks and Kettles
Carpet Dyeing Machines

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Bleaching Ranges (rope or open width)
Agers • Desize Ranges
J-Boxes (Becco & DuPont)
Saturators (rope or open width)
Standard Open Width Washers
Tensitrol Steamers
Tensitrol Washers (rope and open width)

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Tensitrol Washers (rope and open width)
Slack Loop® Washers
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Catalog No. 103
Bleaching ranges, Rangettes, Washers and Saturators. Illustrations, specifications and schematic drawings.

Bulletin No. 54
Niptrol Mangle

Bulletin No. 44
Textile Wet Finishing Equipment

Catalog No. 849
Tensitrol Washers. Detailed description of this unique washer and specifications.

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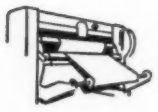
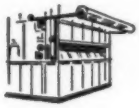
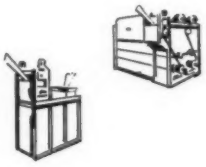


Niptrol Mangle



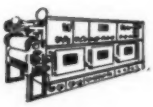
Tru-Shade Dye Beck



Bleaching Ranges and Rangettes

Tensitrol Washer

Tru-Shade Carpet Dyeing Machine



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Sandoz vats set standards for fast colors in materials that differ

Wherever fast color counts – in prints, awning stripes, ginghams, broadcloth – you can count on Sandoz. Sandothrene Ultrasperse Vat dyestuffs give you fine, even dispersions in dyeing and printing. Ample evidence of their superiority is available. Ask to see our chromatographic test discs. These prove how uniformly Sandoz vat dyes penetrate the mass of fibers without forming agglomerates. For vats or vat printing pastes, the complete Sandoz package brings you the finest quality dyes . . . related basic research . . . expert application counsel. Call us today. SANDOZ CHEMICAL WORKS, INC., 61-63 Van Dam Street, New York 13, N. Y. ALgonquin 5-1700.

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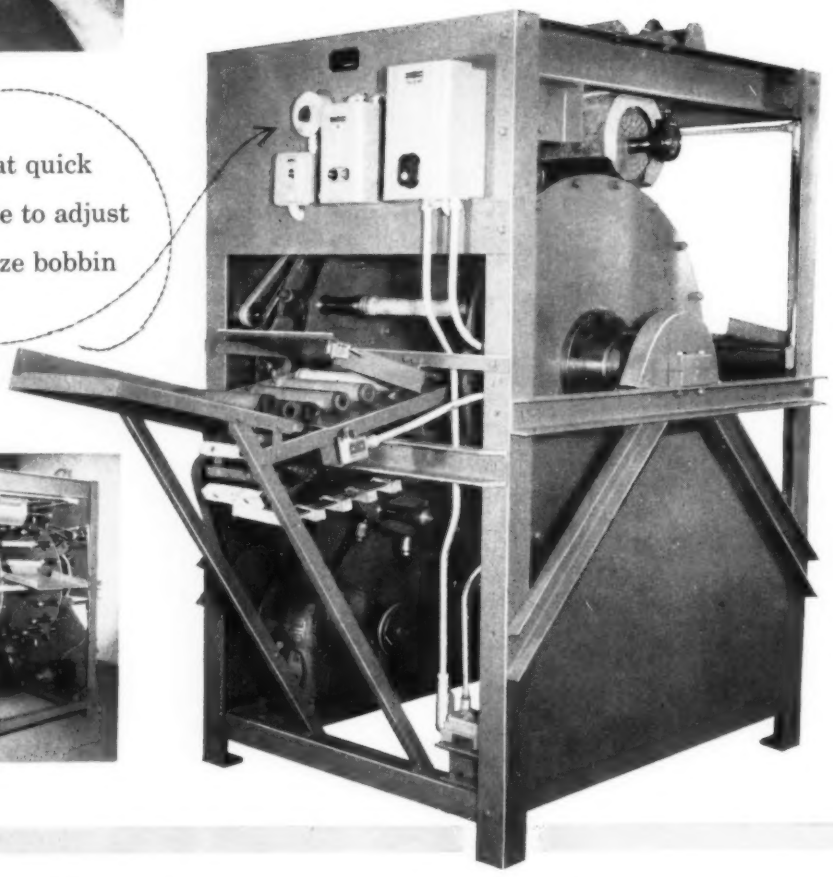
SANDOZ

With the Comer Turley Bobbin Stripper you

DIAL for any bobbin size!

It's that quick and simple to adjust to any size bobbin



HERE IS AUTOMATIC bobbin stripping that saves time . . . ups profits. Perfected in one of the nation's largest mills and tested under actual mill operation. A twist of a knob and you change bobbin length—8, 9, 10, or 12 inches. The Comer Turley strips any type of roving from the bobbin—cleans up to 60 per minute! Dial-a-Bobbin stripping eliminates "down time" . . . no more manual adjustment of stripper for various size bobbins.

Comer Turley Stripper assures less wear and tear on your bobbins. No part of the stripping mechanism touches the bobbin surface. Inside of bobbin is whisked clean as a whistle—no waste to get into yarn . . . fewer imperfections. Roving is unwound at high speed as powerful suction pulls away every strand. This fluffs roving so that it can go directly back to the picker, not to the waste room.

THE COMER TURLEY STRIPS AND CLEANS EVERY SIZE ROVING BOBBIN USUALLY FOUND IN ANY MILL. Write for full story *now!*

Also remember, West Point makes BOTH Multi-Cylinder and Air-Dri Slashers . . . You have a choice with West Point.

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This service is made possible by the advertisers of TEXTILE INDUSTRIES as an aid to mill men who want to keep well informed on new developments in the industry. We cannot, however, extend this service to you unless you print or write legibly your name and position, the name of your firm, and its address on the card.
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PROPER LIGHT FOR TEXTILE INSPECTION. Pamphlet tells how Macbeth Examolites cut inspection rejects and improve quality control in textile examination and inspection. Write Macbeth Daylighting Corp., Newburgh, New York.

WOODEN SHELLS, ROLLS, CORES. Booklet describes various types of wooden shells, rolls and core manufactured for textiles. Includes information on construction. Write Cylinder Mfg. Co., Hawthorne, N. J.

FLASH HOMOGENIZING. Booklet tells how the Jet/Mogenizer achieves improved dispersion, complete homogenization and colloidal suspension in textile printing plants, sizing operations, etc. Write Buschman Products, Inc., 369 Lexington Ave., New York 17, New York.

MATCHING M-107 KHAKI SHADE. Formula for matching the government's standard M-107 Khaki shade on 10-oz. tropical worsted has just been released. Write Sandoz Chemical Works, Inc., 61-23 Van Dam St., New York 13, New York.

MOTOR PULLEYS. Catalog describes all of the improved design features for the #800 series Reeves Jr. Motor Pulleys. Also outlines automatic control of V-belt tension. Write Reeves Pulley Co., Columbus, Indiana.

CLARKLIFT FORK TRUCKS. Construction details, operating characteristics and maintenance features of the new Clarklift line of fork trucks are described in 16-page brochure. Write Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich.

L.O.F. TEXTILE YARNS. 8-page brochure containing facts about L.O.F. Glass Fibers Company's textile yarns is now available. Complete description and some end uses given. Write L.O.F. Glass Fibers Co., 1810 Madison Ave., Toledo 1, Ohio.

CUT COSTS WITH POWER FACTOR CORRECTION. Complete details on how you can buy only the power you need and use all the power you buy through the use of power factor correction capacitors. Write Sprague Electric Co., 427 Marshall St., North Adams, Mass.

MATERIALS HANDLING FOR TEXTILES. Folder shows how fibre receptacles, trucks, etc., can increase efficiency, protect products and make for better materials handling. Write National Vulcanized Fibre Co., Wilmington 99, Del.

BELT PRESERVATIVE. Bulletin describes how "Cling-Surface" belt preservative helps relax belt tension and saves money in belt maintenance. Write Cling Surface Co., 1048 Niagara St., Buffalo, N. Y.

PREVENTION OF FABRIC DISTORTION. How to eliminate fabric distortion and where to check for fabric distortion are discussed in new bulletin. Entire fabric processing operation is reviewed. Write Mount Hope Machinery Co., Fifth St., Taunton, Mass.

BELT LACING EQUIPMENT. Folder gives complete information on Clipper belt lacing equipment, including prices, specifications, etc. Write Clipper Belt Lacer Co., Grand Rapids, Michigan.

Two Big Rivers! 1,000 miles of water sites for industry in

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These choice sites range from 75 acres to 11,329 acres — all with easy access to unlimited water.

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GENERAL, ECONOMICAL MANAGEMENT . . .

3. BEECHCRAFTS AT WORK — Booklet available from Southern Airways Company shows how Beechcraft executive airplanes can save executives time and money. Write — SOUTHERN AIRWAYS CO., Atlanta Airport, Atlanta, Ga.

6. FACTORING SERVICE — Booklet by Trust Company of Georgia gives advantages of factoring, including also information on general backing and pension plans. — TRUST COMPANY OF GEORGIA, Atlanta, Ga.

8. TEXTILE RESEARCH AT AMERICAN VISCOSE — Color booklet tells the story of the Textile Research Department which is, in effect, a many sided textile mill — AMERICAN VISCOSE CORP., 350 Fifth Avenue, New York 1, N. Y.

11. "WHERE DID THEY HIT PAY DIRT?" — Booklet describes how many manufacturing concerns have come South and why they found it profitable. Gives industrial advantages of the Southeast. Write CENTRAL OF GEORGIA RAILWAY, Industrial Development Department, 501 Rhodes Haverty Bldg., Atlanta 3, Georgia.

15. NEW INDUSTRIAL FIBER — Technical bulletin now available on Fortisan-36, new industrial fiber by Celanese. Uses text, charts and diagroms to present technical properties, characteristics and recommendations for processing. — TEXTILE SALES DEPARTMENT, Celanese Corporation, Charlotte, N. C.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. — AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18. RAYON—MILE BY MILE — Color booklet describes how Industrial Rayon Corporation produces rayon mile by mile which is perfect inch by inch. — INDUSTRIAL RAYON CORP., Fifth Ave., New York 18, N. Y.

22. THE WONALANCET WAY — Is the title of an editorial booklet published five times a year and deal with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

23. TEXTILE STEELS — Six booklets are available from Atlantic Steel Company which will prove valuable to persons concerned with the purchase or use of steel. — ATLANTIC STEEL CO., P. O. Box 1714, Atlanta 1, Ga.

24. THE CHEMSTRAND NYLON STORY — Booklet describes one of the greatest industrial ventures of the textile industry in the South — the birth and growth of Chemstrand Nylon. — CHEMSTRAND CORP., 350 Fifth Ave., New York 1, N. Y.

PLANT & PLANT MAINTENANCE . . .

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels; cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AM50 automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

104. STORAGE WATER HEATING — Isotherm Storage Water Heating Bulletin No. 923 on hot water heating to stretch boiler capacity. Write FRED H. SCHAUB ENGINEERING CO., 2110 South Marshall Blvd., Chicago 23, Illinois.

105. CASTERS AND WHEELS — Catalog gives complete description on full line of industrial casters and wheels. Features patented "LOCKWELD" Steel Casters Without A Kingpin" both Single and Double Ball Race. — THE FAIRBANKS CO., 393 Lafayette St., New York 3, N. Y.

106. FINNELL COMBINATION SCRUBBER-VAC —Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing. Including method recommended for cleaning oily floors. — FINNELL SYSTEMS, INC., 1300 East St., Elkhart, Indiana.

111. CERTIFIED CLIMATE AIRCHANGER SYSTEM — Bulletin describes Certified Climate Airchanger System as used with direct humidification for partial or complete air conditioning. — PARKS-CRAMER CO., Fitchburg, Mass.

112. HARDWOOD FLOORING — Booklet entitled "Specialist in Manufacturing of Hard Maple Flooring for textile plants." For complete information, write — CONNOR LUMBER & LAND COMPANY, P. O. Box 816, Wausau, Wisconsin.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St, Pittsburgh 30, Pa.

114. PENETRATING WOOD FINISH — Bulletin gives applications, uses and application specifications of floor seals for textiles. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIVISION, Wilmington, Delaware.

115. FOAMGLAS — Illustrated brochure features information on how the use of Foamglas cellular glass insulation solved the severe insulating problems of leading users. — PITTSBURGH CORNING CORP., One Gateway Center, Pittsburgh 22, Pa.

116. STOP CORROSION — Details on speed Rex paint for metal wood and concrete maintenance solving condensation problems. — TRUSCON LABORATORIES, Box 69, Millwaukee Junction, P. O. Dept. T, Detroit 11, Mich.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

118. LIQUIDATION INFORMATION — Information available on how to profitably dispose of mill properties being liquidated. Tells how Comer will buy, sell and relocate industry in your former site. — COMER MACHINERY CO., 684 W. Peachtree St., Atlanta, Ga.

120. STAINLESS STEEL FOR TEXTILES — 40-page booklet gives applications and advantages of stainless in textile plant equipment of all types. — ALLEGHENY LUDLUM STEEL CORP., Dept TI-71, Oliver Bldg., Pittsburgh 22, Pa.

121. CRANES AND HOISTS — Portfolio of bulletins describes the complete line of Shepard Niles traveling hoists and floor or cab operated traveling cranes. — SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

122. TEXTILE MILL CLEANING GUIDE — Useful book by Oakite prescribes methods and means of proper mill cleaning and maintenance. — OAKITE PRODUCTS, 26C Rector St., New York 6, N. Y.

123. ROLLER BEARINGS FOR TEXTILES — Easy to read non-technical bulletin describes where and how Hyatt Roller Bearings are employed for more profitable textile production. — HYATT BEARINGS DIV., GENERAL MOTORS CORP., Harrison, N. J.

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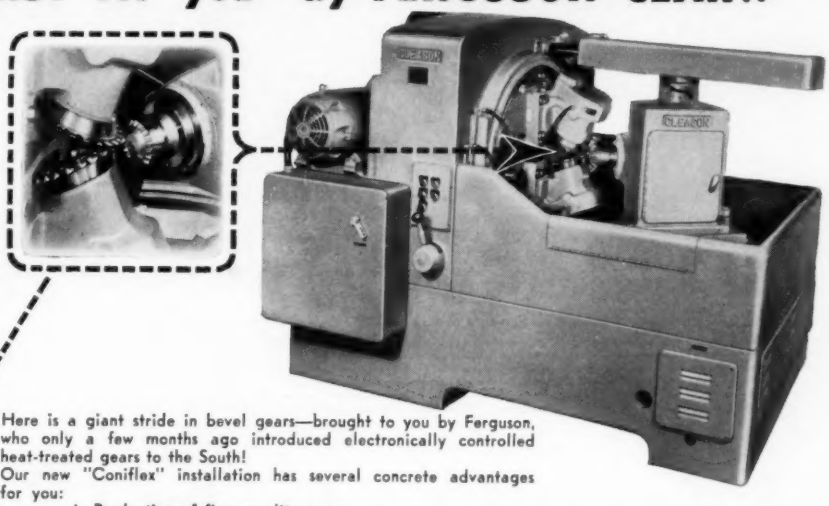

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125. STATIC ELIMINATION — Bulletin by Simco describes effective, simple, safe and inexpensive means of eliminating static. — SIMCO COMPANY, 980 Walnut St., Lansdale, Pa.

126. TOLEDO TRUCK SCALES — Booklet tells how mills may save on installation and throughout long, useful lift of Toledo Truck Scales. Gives capacities and advantages. — TOLEDO SCALE COMPANY, Toledo 1, Ohio.

127. SOLENOID VALVES — Bulletin "V" lists sizes from ½ inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

130. STAINLESS STEEL FABRICATION — Illustrated color booklet by Simms describes the advantages of stainless steel with regard to textile operations. Also includes information on ventilating and drying, slasher exhaust, and materials handling systems. — SIMS METAL WORKS, West Point, Ga.

131. "AIR-PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22.

132. AUTOMATIC BOILERS — Bulletin describes POWER-MASTER Automatic Boilers for light and heavy oil; gas or combination Gas-Oil Firing. Complete table of data. — ORR AND SEMBOWER, INC., Reading, Pa.

133. AIR LINE FILTERS — Catalog describes various air line filters for removal of oil, corrosive moisture, abrasive pipe scale, rust, and other solids from compressed air lines. Write for Catalog No. 700. — C. A. NORGREN CO., 3450 So. Elati St., Englewood, Colo.

134. CUT WATER TREATMENT COSTS—Folder presents Oakite Airefiner No. 52, a mildly alkaline compound, that is said to control scale, slime, algae and corrosion. Write OAKITE PRODUCTS, INC., 126C Rector St., New York 6, N. Y.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIV., Wilmington 98, Delaware.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire Constructions and Positive Drive Chain Edge belts. —ASHWORTH BROS. INC., METAL PRODUCTS DIV., Fall River, Mass.

141. SEAMLEX METAL HOSE — New illustrated bulletin No. 955 gives essential information on Seamlex Bronze Hose and diesel exhaust hose. Write SEAMLEX CO., INC., 41-23 24th St. Long Island City, N. Y.

143. UNIT HEATER — The latest improvements, specifications, and complete performance data for Herman Nelson horizontal and vertical unit heaters have been written into a new 36-page product bulletin by the AMERICAN AIR FILTER CO., INC., 215 Central Ave., Louisville, Ky.

144. SCHAUB "03" DEAERATORS — Bulletin No. 1300 explains how modern design, a simplified principle and advanced engineering now bring effective deaeration at a budget price. Write FRED H. SCHAUB ENGINEERING CO., 2110 South Marshall Blvd., Chicago 23, Illinois.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. — PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS — Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — SYNTHANE CORPORATION, TEXTILE DIVISION, Oaks, Penna.

161. AUTOMATIC CLEANING EQUIPMENT — Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. — AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.— G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion. — OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance, characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

203. TREADED LEATHER BELTING — This 16 page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section. — E. F. HOUGHTON & CO., Philadelphia, Pa.

205. MAINTENANCE OF VARIABLE SPEED DRIVES — Bulletin describes and illustrates the simple but comprehensive program available to keep Reliance V-S Jr. Drives in operation at peak efficiency.—RELIANCE ELECTRIC & ENGINEERING CO., 1088 Ivanhoe Rd., Cleveland 10, Ohio.

208. CUTLER-HAMMER MOTOR CONTROL — Booklets describe the combination starters for the textile industry, for roving frames and spinning frames, loom switch and Cutler-Hammer Motor Control for textile cards. — CUTLER-HAMMER, 315 N. 12th St., Milwaukee, Wisconsin.

209. STEEL PULLEYS — Pictorial review of American Steel Pulleys, their manufacturing processes and some of their end uses. Textile pulleys are featured. — AMERICAN PULLEY CO., 4200 Wissahickon Ave., Philadelphia 29, Pa.

211. LUBRICANTS FOR TEXTILES — Working samples available of Ben Boy Bearing Lubricants, Spindle Oils, Non-Melting Oils, Twister Lubricants. — GEORGIA-CAROLINA OIL CO., Box 101, Macon, Ga.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

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213. LUBRICATION OF ELECTRIC MOTORS — Illustrated bulletin on lubricating and cleaning ball and roller bearings on electric motors. — NEW YORK & NEW JERSEY LUBRICANT COMPANY, 292 Madison Ave., New York 17, N. Y.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

222. AUTOMATIC PRODUCTION CONTROL — Booklet by Reeves Pulley Company, shows application of many automatic processes and controls to the textile industry. Well illustrated, it contains engineering data quite useful to anyone interested.—REEVES PULLEY COMPANY, Columbus, Indiana.

223. LUBRICATION OF BEARINGS — Booklet entitled "Lubrication and Maintenance of Ball and Roller Bearings" gives helpful list of do's and don'ts to prolong bearing life. Also includes valuable information on storage and handling of lubricants. — NEW YORK & NEW JERSEY LUBRICANT CO., 292 Madison Ave., New York 17, N. Y.

225. HLDRAULIC SLASHER DRIVES — Color booklet by Vickers shows how hydraulic drives provide an economical approach to improved slasher operation. Has detailed pictures and enumerates advantages. — VICKERS, INC., 1036 Peachtree St., Atlanta, Ga.

228. NEW NEEDLE OIL — Booklet by Shell gives facts on Vexilla Oil 117, which gives 12 times more rust protection during operation and during shut-down periods. — SHELL OIL CO., 50 West 50th St., New York 20, N. Y.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

230. INDUSTRIAL GREASES — New available from Sinclair is a bulletin detailing qualities and specifications of multi-purpose lithium soap industrial greases. — A. S. RANDAK, SINCLAIR REFINING CO., 600 Fifth Ave., New York, N. Y.

231. MECHANICAL POWER TRANSMISSION — 328-page catalog contains helpful information on Dodge products, including sectional drawings, dimensions, weights, prices, application details and engineering tables. Write DODGE MFG. CORP., Mishawaka, Indiana.

232. "VARI-PITCH SHEAVE BULLETIN — Stationary and motion control of "Vari-Pitch" sheaves for speed variation up to 7&% by means of pitch diameter adjustment, capacities 1 to 600 HP are described in new bulletin. — ALLIS-CHALMERS MFG. CO., Milwaukee 1, Wisconsin.

233. LEATHER BELTING — Booklet by Atlanta Belting Co., describes comprehensively the selection, installation, and proper maintenance of modern leather belting. — ATLANTA BELTING CO., 508-510 Whitehall St., S.W., Atlanta, Ga.

234. SPINDLE OIL — Color brochure describes "Gulfspin," showing how it insures against excessive wear in cast iron bolsters and provides freedom from spindle wobble. — GULF OIL CORPORATION, Gulf Bldg., Pittsburgh, Pa.

235. JOHNSON LEDALOYL BEARING BRONZE — Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. — JOHNSON BRONZE COMPANY, New Castle, Pa.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 2100 W. Eleventh St., Wilmington 99, Del.

240. CATALOG OF NEEDLE BEARINGS — New catalog conveniently presents design application and use data for five types of needle bearings. Actually an engineering short course on bearings with visual index units. — THE TORRINGTON CO., Torrington, Connecticut.

242. CYLINDERS AND BOOSTERS — Book by Miller Fluid Power Co. contains complete listing of air and hydraulic cylinders and boosters "in stock," price lists, and graphic explanation of their equipment. Write MILLER FLUID POWER CO., 2040 N. Hawthorne, Melrose Park, Illinois.

253. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating chain drives in very comprehensive form. — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION — Booklet entitled "From Fiber to Fabric." Shows advantages of central lubrication systems as applied to various departments of textiles. Write — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, DIVISION OF GENERAL MOTORS CORP., Bristol, Conn.

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301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

302. TEXTILE INSTRUMENTATION—New booklet gives details on Brush Lapcheck, Brush Tension Analyzer, Brush Imperfection Counter, and Improved Uniformity Analyzer. Pictures uses and capacities of each machine discussed. — BRUSH ELECTRONICS CO., 3405 Perkins Avenue, Cleveland 14, Ohio.

304. WASTE HEAT RECOVERY — Color booklet describes Bready System of waste heat recovery from polluted or soiled waste water. Includes pictures and complete facts. — LUDELL MFG. CO., 5200 West State Street, Milwaukee, Wisconsin.

305. AUTOMATIC MOISTURE CONTROL—Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics.—HUNTER CONTROLS, INC., DIV., JAMES HUNTER MACHINE CO., North Adams, Mass.

310. HOW TO SELECT LIQUID METERS — Helpful free booklet covers meters for brines, soap solutions, hot and cold water and other chemical solutions that can be handled by compostition bronze meters. Write for bulletin 566UTI. — NEPTUNE METER CO., 10 W. 50th St., New York 20, N. Y.

313. "THE FAIRBANKS VALVE COMPARISON CHART" — New reference manual important in specification, ordering, and using of bronze and iron-body valves. — THE FAIRBANKS COMPANY, 393 Lafayette Street, New York 3, N. Y.

315. MICRO SWITCH BULLETIN — Complete selection of bulletins featuring Micro Switch products is now available. Includes prices, characteristics, applications, etc. — MICRO SWITCH DIV., MINNEAPOLIS-HONEYWEL LREGULATOR CO., Freeport, Ill.

316. MOISTURE CONTROLLER AND INDICATORS — Literature available from Strandberg Engineering covers indicators for slashers, tenters, etc.; for direct connection to pickers, and automatic controllers for connection to same. — STRANDBERG ENGINEERING LABORATORIES, 416 W. Market St., Greensboro, N. C.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

HELPFUL BOOKLETS FREE!

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. —TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES—Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

CARDING, SPINNING, WINDING . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

403. TRAVELING CLEANERS — 4-page bulletin describes the improved Parks-Cramer Frame and Room Cleaners including the Underframe and Floor Sweepers. — PARK-CRAMER CO., Fitchburg, Mass.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information will be supplied on lapless endless spinner and coning belting. — TON-TEX CORPORATION, 31 Columbus Ave., Englewood, N. J.

408. CARD GRINDING INFORMATION —Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

410. SPINNING FRAME CONVERSIONS — Information available on how to get new-frame results and big-package economy at half the cost with Meadows Conversions. — MEADOWS MFG. CO., P. O. Station A, Atlanta, Ga.

411. SHEET METAL WORK — Pamphlet describes spinning cylinders, aspirators, card screens, sheet metal specialties. — GASTONIA TEXTILE SHEET METAL WORKS, INC., 222 East Long Avenue, Gastonia, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

413. HIGH SPEED, AUTOMATIC QUILLER — Color booklet by Schlafhorst describes the "Autocopser" Automatic Quiller. Gives advantages, space requirements, etc. — TERRELL MACHINE CO., INC., Charlotte, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. —NATIONAL RING TRAVELER CO., Pawtucket, R. I.

417. FEATHERTOUCH DRAFTING — Booklet describes in detail with pictures the most uniform drawing, the strongest drawing with the highest production per frame at the lowest cost. — IDEAL INDUSTRIES, INC., Bessemer City, N. C.

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422. WARPER BEAMS — Folder describes the high speed for rayon tire cord cotton warper beams cast aluminum end supports and large diameter heads. —U. S. BOBBIN SHUTTLE CO., Lawrence, Mass.

423. SPINDLE OILING MACHINE — Information available on new Spindle Oiling Machine. Features include filter system to clean oil for reuse; smaller size for narrow aisles. — WICACO MACHINE CORP., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

424. GREASE-SEALED, ANTI-FRICTION ROLLS — Booklet contains description and engineering drawings of the Cole grease-sealed, anti-friction rolls. Also contains information on dual apron controlled drafting units. —COLE ENGINEERING CORP., P. O. Box 153, Columbus, Ga.

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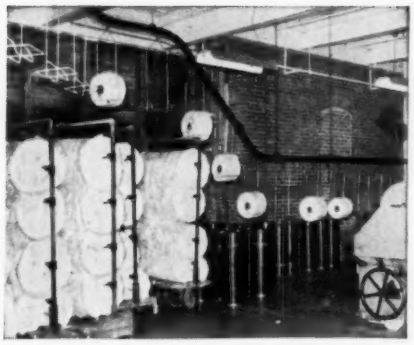

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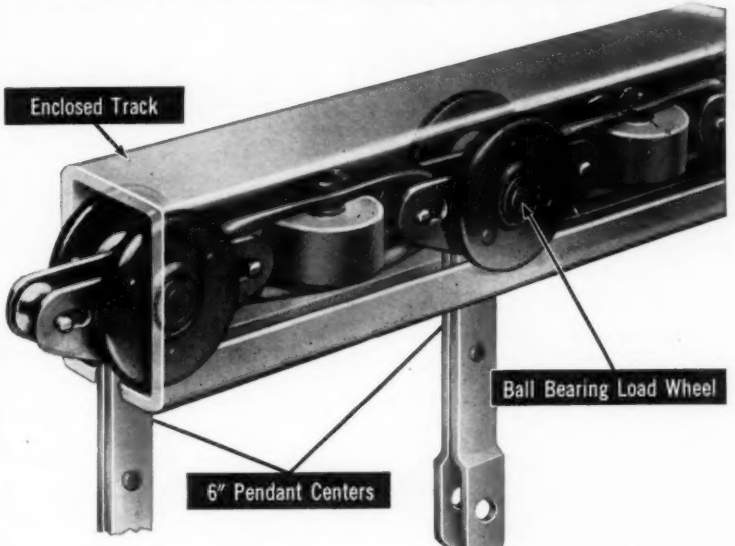

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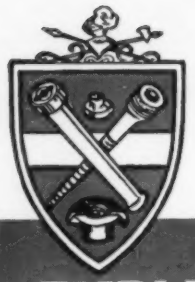

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429. BETTER FLYER AND SPINDLE EFFICIENCY — Entertaining booklet by Ideal Machine Shops gives facts about Flyers and Spindles which have helped many mills gain more efficient production, better yarn quality. — IDEAL MACHINE SHOPS, INC., Bessemer City, N. C.

431. TEXTILE VACUUM SYSTEM — Color bulletin by Spin Sa Vac describes application of their vacuum system to drawing, roving and spinning processes, and for the removal of broken ends, fly or sliver. Complete diagrams and shots of typical installations. — SPIN SA VAC CORPORATION, 1438 South Tryon St., Charlotte, N. C.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for Winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

433. PERMANENT PLATE MAGNETS — Bulletin shows how Eriez Magnetic Separators prevent fires and protect machinery from tramp iron in all types of textile mills. — ERIEZ MFG. CO., Erie, Pa.

434. SPINNING AND TWISTER RINGS — Catalog and price list now available on Whitinsville "Diamond Finish" spinning and twister rings. Complete details and pictures. — WHITINSVILLE SPINNING RING CO., Whitinsville, Mass.

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436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

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440. CUSTOM MADE THREAD GUIDES — Color brochure describes complete line of American Lava Company's thread guides. Composition, properties, specifications of all designs included. —AMERICAN LAVA CORPORATION, Chattanooga 5, Tenn.

444. OPENING AND CLEANING MACHINERY— Color brochure by Dodenhoff describes their waste machine, enclosed feeder, conveyors and cleaner. Specifications included with pictures. — W. D. DODENHOFF CO., Box 178, Greenville, S. C.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Gaslewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

448. AUTOMATIC BLENDING SYSTEM—Dodenhoff system, called "Fiber Meter" is fully described in color booklet. Gives actual operating results, shows pictures and illustrates typical conversion of old fashioned systems. — W. D. DODENHOFF CO., 745 Loundes Hill Road, Greenville, S. C.

449. NEW CONDENSER TAPE — Literature by Benjamin Booth describes newly introduced SUPR-O-TAPE, an impregnated fabric condenser tape. Shows actual sample of tape and gives complete prices. — BENJAMIN BOOTH CO., Allegheny Ave., & Janney St., Philadelphia 34, Pa.

450. HIGH SPEED AUTOMATIC QUILLER — Color booklet describes the Schlafhorst "Autocopser," listing its advantages and giving dimensions. — TERRELL MACHINE CO., INC., P. O. Box 928, Charlotte, N. C.

451. ROLLER BEARING SPINDLE — Color booklet gives principal features and main advantages of SMM Roller Bearing Spindle. Detailed drawings included. — H. PHIL WORTH, Box 1555, Greenville, S. C.

452. PNEUMAFIL LINT-FREE CREEL — Color booklet describes the new Airfoil Design Pneumafil type LFC with Built-in Lint-Free Creel. Gives complete details and pictures. — PNEUMAFIL CORPORATION, Charlotte 8, North Carolina.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. — USTER CORPORATION, Charlotte, N. C.

456. SRRL OPENER, SCREW CONVEYORS — Information available on Continental Gin Company's SRRL Opener. Also complete line of screw conveyors and accessories. — CONTINENTAL GIN CO., Birmingham, Ala.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers. — HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc fully described with specific application. — WALTER KIDDE & CO., INC., 190 Main St., Belleville 9, N. J.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

465. RAGAN SELF-LUBRICATING RINGS — Complete data available on new self-lubricating rings, outlining unique construction and absence of wicks. — RAGAN RING CO., 901 S. Main St., East Point, Ga.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

470. RATCHET DRIVE LUBRICATOR — Technical reference sheet describing an automatic ratchet-driven lubricator is offered. Describes in detail the key features, includes photograph. — BIJUR LUBRICATING CORP., 151 W. Passaic Ave., Rochelle Park, N. J.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

472. TWISTING MACHINERY — Bulletin gives outstanding features, specifications facts and useful information on Novelty Yarn Twisters for Cotton, Silk, Worsted and Rayon Yarns. — COLLINS BROTHERS MACHINE COMPANY, 647 Roosevelt Ave., Pawtucket, Rhode Island.

473. ALUMINUM SECTION BEAMS — Information available on advantages of Hayes beams. Includes prices and delivery schedules. — HAYES INDUSTRIES, INC., Jackson, Mich.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literatur eon their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown. — SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, roll covering for cotton, silk and synthetic and woolen and worsted systems. An excellent guide book. — ARMSTRONG CORK CO., INDUSTRIAL DIV., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

478. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing on green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

482. TRU-DRAFT CREELS. Brochure describes the Bouligny Tru-Draft Umbrella Creel as easy to install, adaptable to all frames, completely adjustable, etc. Write THE BOULIGNY CO., P. O. BOX 2115, Charlotte, N. C.

483. COST-CUTTING TEXTILE OILS. — New pamphlets have been issued on two oils: Gulfspin, the spindle oil that is said to reduce maintenance and power costs, and Gulftex 39, the nonstaining needle oil that is claimed to keep needles clean and smooth. Write GULF OIL CORP., Rm. 1304 Gulf Bldg., Pittsburgh 30, Pa.

484. COLLECTO-VAC. Catalog 30-A describes Bahnson's new development, COLLECTO-VAC, for collecting lint, fly and broken ends. Write THE BAHNSON CO., Winston-Salem, N. C.

485. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

485. COTTON SIZING WASTE PROBLEM SOLUTION — Booklet describes the use of soluble, low-pollutional CMC in place of starch and how this can reduce costs. — HERCULES POWDER CO., Wilmington 99, Delaware.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

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504. LOOM SUPPLIES — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products. — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

505. INNOVATION IN TEXTILE DRYING — Booklet by J. O. Ross gives details on Steam or Gas "Hot Air" Slasher for high speeds at low cost. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

506. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

510. CONTROLLED SIZING — Brochure in color describes the legend, operation and specification of the new Griffin Size Machine. Features most important basic improvements in size machines in many years. — IRA L. GRIFFIN & SONS, P. O. Box 1576, Charlotte, N. C.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

514. THE STORY OF STARCHES — Semi-technical booklet tells the story of starches and information on how they are produced, the creation of new specialty starches, the unique "man-made" starch derivatives, and the handling of starches. — NATIONAL STARCH PRODUCTS, INC., 270 Madison Avenue, New York 16, New York.

515. WARPING, SLASHING, WEAVING ARNEL YARNS — 8-page booklet preliminary information on Arnel Triacetate Yarns. — CELANESE CORP. OF AMERICA, TEXTILE DIVISION, Box 1414, Charlotte, N. C.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

519. ALIGNING LAYS — Informative booklet gives setting instructions for aligning lays. Complete treatment, including step-by-step drawings.—DRAPER CORPORATION, Hopedale, Massachusetts.

520. HELP ON SIZING PROBLEMS—Information from Southern Sizing Company outlines how their superior sizing compounds and superior service can help make your mill run better. — SOUTHERN SIZING CO., East Point, Ga.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

522. PENFORD GUMS IN TEXTILES — Brochure tells how the wide range of viscosities and the excellent properties of Penford Gums make them desirable for warp sizing spun yarns. — PENICK & FORD, LTD., INC., 420 Lexington Ave., New York 17, N. Y.

525. STAINLESS DRY CANS — Bulletin describes advantages of Unistel Stainless Dry Cans including details of construction. Profusely illustrated. — UNISTEL TEXTILE MACHINE CORP., 225 Westchester Avenue, Port Chester, N. Y.

526. SACO-LOWELL POSITROL SLASHER — Color Brochure gives 14 advantages of the Saco-Lowell Positrol Slasher. Includes photographs, cut-away drawings, sectional pictures, diagrams, Microphotographs. SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

532. LOOM HARNESS REEDS. Pamphlet describes in detail the following reeds: All Metal Reeds, Pitch Band Reeds, All Metal Spring Baulk Reeds, All Metal Plush Reeds, All Metal Ribbon Reeds, and special reeds for Warner & Swasey Looms. Write STEEL HEDDLE MFG. CO., 2100 West Allegheny Ave., Philadelphia 32, Pa.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

541. BOOKLETS ON COCKER CUSTOM BUILT EQUIPMENT — 8six new bulletins available from Cocker include information on the high speed Warp Sizer, high speed Beam Warper, Cocker Creels and Tensions, Beam Back-Winders, Indigo Dyeing Ranges, Kettles, T-Boxes, etc. — COCKER MACHINE & FOUNDRY CO., Gastonia, N. C.

545. NOPCO CHEMICAL DATA SHEETS — Now available are Nopcostats, Nopco Sizes N and D, Important points in Warp Sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate warp sizing, Viscose warp sizing, Rayon soaking. — NOPCO CHEMICAL CO., Harrison, N. J.

DYEING, FINISHING CLOTH ROOM . . .

601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

603. EMCO ROTARY CUTTER WINDER — Bulletin gives applications, sizes and exclusive features.— H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

604. DYEING, BLEACHING AND DRYING EQUIPMENT — Excellent color brochure by Morton describes their complete line of dyeing, bleaching and drying equipment for cotton, wool and synthetics. — MORTON MACHINE WORKS, 1718 3rd Ave., Columbus, Ga.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

607. RIBBON CALENDERS — Brochure features Dickerhoff Ribbon Calenders for the purpose of calendering, embossing, etc., of narrow fabrics. — ENGINEERING WORKS, HERM. DICKERHOFF LTD., Wuppertal Barmen, Western Germany.

608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction. — C. G. SARGENT'S SONS CORPORATION, Graniteville, Massachusetts, U.S.A., for bulletin 195.

609. WET PROCESSING MACHINERY — Complete file of bulletins on Riggs and Lombard Wet Processing Machinery available. Write for catalog index sheet giving summary. — RIGGS AND LOMBARD, INC., Suffolk Street, Lowell, Mass.

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610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes pre-boarding and automatic boarding machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

611. LOW COST DYEING — Bulletin by Blickman describes their fully enclosed, stainless steel Dyebox. Reports increased production per man hour and more runs per day at lowe rcost. Write for bulletin 7034.—S. BLICKMAN, INC., Gregory Ave., Weehawken, N. J.

612. JAMES HUNTER MACHINES FOR DYEING AND FINISHING — Comprehensive Catalog contains complete file of bulletins on all Hunter machines having application in dyeing and fini Excellent reference data for dyehouses. — JAMES HUNTER MACHINE CO., North Adams, Mass.

613. HERMAS TEXTILE MACHINES — Selection includes brochures on Unwind Stand, Automatic Guiding Unit, Jet Mixer, Selvage Trimming, Clothrom Machinery. — HERMAS MAHCINE CO., Hawthorne, N. J.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

618. APPLICATION OF FUGITIVE DYES — Bulletin describes UNITINT operation, giving advantages of effectively controlling the application of fugitive dyes to various fibers . —W. D. DODENHOFF COMPANY, 745 Lowndes Hill Rd., Greenville, S. C.

619. PENFORD FINISHING GUMS — Booklet by Penick & Ford gives complete data, including physical properties and results which may be expected on Penford gums. — PENICK & FORD, Ltd., 420 Lexington Ave., New York 17, N. Y.

620. REGENERATIOS OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

621. "DYEING SYNTHETIC FIBERS" — Brochure giving a comprehensive, detailed analysis of the methods and materials available for dyeing synthetic fibers. — GENERAL DYESTUFF CO., 435 Hudson St., New York 14, N. Y.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. TREATMENT OF SYNTHETIC TEXTILE FINISHES — High speed drying and curing of synthetic finishes by means of far-infrared radiation is covered in a new 22 page folder entitled "The Textile Report" by Edwin L. Wiegand Company, 7700 Thomas Blvd., Pittsburgh 8, Pa.

630. COMPLETE NAPTHOL MANUAL — Practical working handbook, 110 pages, on textile dyeing and printing applications of Napthols. Write on company letterhead to PFISTER CHEMICAL WORKS, Box 326, Ridgefield, N. J.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods.—FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1- Cillustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

636. NAPPERS FOR TREATING ANY FABRICS — Bulletin gives complete details on the Muller Tri-Napping Machine with 24, 30, or 36 rollers. Dimensions and weights included. — FRANZ MULLER, M. Gladbach, Germany.

637. BALL BEARING TURN TABLE — Leaflet describing this 48 inch diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

642. SELVAGE OR BACK MARKING MACHINE —Complete specifications and performance data on a new fully automatic marking machine available from Kaumagraph. — KAUMAGRAPH CO., WILmington 99, Delaware.

643. SURFACE-ACTIVE AGENT — Bulletin gives characteristic properties, suggested applications, etc. of the Nonionic Octylphenoxyethanol Triton Surface-Active Agents. — ROHM & HAAS CO., SPECIAL PRODUCTS DEPT., Philadelphia 5, Pa.

644. DYEING, BLEACHING, FINISSING BULLETINS — Saturater for roped goods, J-Box (for Rocco process), J-Box (for duPont Process), Continuous Bleaching Ranges, Carrier Reels, Drum-Type Plaiter are available from WIESNER-RAPP CO., INC., 1600 Seneca Street, Buffalo 10, New York.

645. HYCAR LATICES IN TEXTILES — New 16-page service bulletin features a chart showing the physical properties of the Hycar latices and typical fields of application for each. Write — ADVERTISING DEPARTMENT, B. F. GOODRICH CHEMICAL CO., 324 Rose Bldg., Cleveland 15, Ohio.

647. CURING OVEN — Bulletin gives details of modern, highly efficient gas-fired curing oven for handling resin-treated fabrics. Shows outstanding features and enumerates advantages. Write — JAMES HUNTER MACHINE CO., North Adams, Mass.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO., Fifteen Fifth St., Taunton, Mass.

656. GET RID OF WRINKLES — .Brochure shows how Mount Hope "free wheeling" expanders keep fabrics smooth, at full width, without distortion whenever goods are rolled, nipped, dyed, washed, dried or batched. — MOUNT HOPE MACHINERY CO., Taunton, Mass.

657. PROCESSING ARNEL FABRICS AND BLENDS — Bulletin provides information on dyeing, printing, finishing, and heat treating Arnel. Text, charts and diagrams included. Write for No. TD-15. CELANESE CORP. OF AMERICA, Textile Division, Marketing Dept., Charlotte, N. C.

659. SONOCO TUBES FOR PACKAGE DYEING — Color bulletin describes Sonoco's DYTEX tubes for one-time use in standard package dyeing equipmeit to achieve uniformity. — SONOCO PRODUCTS CO., Hartsville, S. C.

660. MULTI-STAGE WASHER — Bulletin No. T-111 by Wiesner-Rapp illustrates and describes the versatility, accessibility, efficiency and compactness of the Multi-Stage Washer. Write THE WIESNER-RAPP CO., INC., 1600 Seneca St., Buffalo 10, N. Y.

DYESTUFFS, CHEMICALS, SOAPS . . .

701. MAGNESIUM APPLICATIONS — Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry. — DOW CHEMICAL CO., Midland, Mich.

704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES — 24-page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization. — ROHM & HAAS COMPANY, RESINOUS PRODUCTS DIV., Washington Square, Philadelphia 5, Pa.

705. THEORETICAL AND APPLIED SILK-SOAKING — Attractive twenty-three page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk. — HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

707. BRINE FOR TEXTILE INDUSTRY — 32-page booklet on the Lixate Process replaces former booklet on making brine that has been a standard reference for years. Contains much more technical information. — INTERNATIONAL SALT CO., INC., Scranton, Pa.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing. — AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

712. CATALYST AC-6 — Booklet describes how Catalyst AC-6 steps up curing efficiency as much as 25%. Free eight-ounce bottle upon request. — MONSANTO CHEMICAL COMPANY, PLASTIC DIVISION, DEPT., TI-3, Springfield 2, Mass.

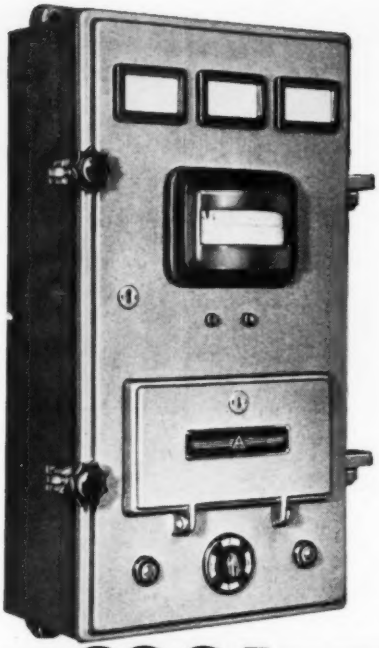
714. NEW SODA ASH BULLETIN — 64-page edition contains both new material and revisions of previously used data covering the subject. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS — Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing. — ARKANSAS CO., INC., Newark, N. J.

719. WOOL OIL — Descriptive booklet on antistatic fiber lubricant, Twitchell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing. — EMERY INDUSTRIES, INC., DEPT. 5, Carew Tower, Cincinnati 2, Ohio.

720. INDUSTRIAL OIL — Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources. — SWIFT & COMPANY, INDUSTRIAL OIL DEPARTMENT, 1800 165th Street, Hammond, Indiana.

723. CHEMICAL CATALOG — Features detergents, wetting agents, emulsifiers, brighteners, sequestrants, dyeing assistants with chemical composition, properties and application.—ANTARA CHEMICALS DIV., GENERAL ANILINE & FILM CORP., 435 Hudson St., New York 14, N. Y.



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724. WICA CHEMICAL BULLETINS — Bulletins describe in technical terms the various Wica Products for textiles. Issued each month for the benefit of industry, they are an excellent help in wet processing. To get on the mailing list write WICA CHEMICALS, INC., P. O. Box 506, Charlotte, N. C.

726. CELANESE ORGANIC CHEMICALS—Booklet gives complete technical details on Celanese organic chemicals including uses and descriptive data. Useful addenda to files.—CELANESE CORPORATION, CHEMICAL DIVISION, 180 Madison Ave., New York 16, N. Y.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

729. STATIC AND STATIC CONTROL — Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Prexol T an outstanding wool oil. — PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. BLEACHING WITH PEROXYGEN CHEMICALS — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available. — BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York.

735. NAPTHOL RATIOS SLIDE CHART — Slide guide available which quickly and accurately enables dyer or printer to determine Napthol Ratios. Free to persons writing on company letterhead. — ALLIANCE COLOR AND CHEMICAL CO., 33 Avenue P, Newark 5, N. J.

737. MORTON "PCB" ROCK SALT — Free booklet tells how "PCB" Rock Salt saves money on sequestering agent, eliminates streaks and off-shading, and increases color intensity. — MORTON SALT CO., Industrial Division, Dept. T.I.-3, 120 So. LaSalle St., Chicago 3, Ill.

739. HYDROGEN PEROXIDE — New booklet covering the properties, uses and handling of hydrogen peroxide is now available. Illustrated with tables and diagrams, the text covers chemical reactions, handling and storage. — ADV. AND SALES PROM. DEPT., Solvay Process Div., Allied Chemical & Dye Corp., 61 Broadway, New York 6, N.Y.

741. SAFE HANDLING OF CHLORINE AND CAUSTIC SODA — Two new illustrated wall charts presenting up-to-date instructions for the safe handling of chlorine and caustic soda have been prepared for users and handlers of these chemicals. Write INDUSTRIAL CHEMICALS DIV., OLIN MATHIESON CHEMICAL CORP., Baltimore 3, Maryland.

742. TEXTONE NaClO2. Booklet explains the use of this Sodium Chlorite Product for Textiles Processing. Write OLIN MATHIESON CHEMICAL CORP., 460 Park Ave., New York 22, New York.

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

746. INDUSTRIAL CHEMICALS — 24-page booklet listing alphabetically Harshaw industrial chemicals and applications. — THE HARSHAW CHEMICAL COMPANY, 1945 East 97th Street, Cleveland, Ohio.

747. CATIONIC SURFACE ACTIVE AGENT — Technical bulletin describes Harshaw's UVERSOFT "D" which produces full, soft hand while acting as an outstanding anti-static agent. — HARSHAW CHEMICAL CO., 1945 East 97th St., Cleveland 6, Ohio.

748. CHEMICALS, DYES AND INTERMEDIATES — Complete file of bulletins available on Metro-Atlantic products. Covers wide range. Write for product resume showing bulletins offered to METRO-ATLANTIC, INC., Centredale 11, R. I.

753. TRITON X-100 — Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives physical properties, reaction chart, chemical properties, potential applications, toxicity, table of alcohol reactions, table of amine and related compound reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

766. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

769. SURFACE TENSION DEPRESSANT — The Booklet, "Mercerizing and Alkamerce — The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

774. ROYCE TEXTILE CHEMICALS — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

775. ETHANOLAMINES — Book describes monoethanolamine, diethanolamine, and triethanolamine, listing their applications, chemical and physical properties, physiological properties, etc. — NITROGEN DIVISION, ALLIED CHEMICAL AND DYE CORPORATION, 40 Rector St. New York 6, N. Y.

KNITTING . . .

800. SYNTHANE TEXTILE PARTS — Folder on laminated bobbins, pirns, headless package tubes, hosiery turning and examining forms, sizing bobbins, etc. — SYNTHANE CORP., 9 River Road, Oaks, Pa.

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG. CO., FULL FASHIONED DIVISION, Norristown, Pa.

803. TIPS ON SEAMING NYLON STRETCH HOSIERY — Pamphlet lists in detail observations and suggestions on seaming nylon stretch hosiery prepared by Union Special as a result of findings of engineers in the field. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Ill.

804. BOOKLETS ON FIDELITY MACHINES — Following booklets available: Fidelity "400", Fidelity Multi-Design Ribber, Fidelity Skein Reelers. — FIDELITY MACHINE CO., 3908-18 Frankford Ave., Philadelphia 24, Pa.

808. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

818. FORGED HEAD ALUMINUM BEAMS — Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams. — MILTON MACHINE WORKS, INC., Milton, Pa.

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828. THE KIDDE KNITTER — Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1006. LANE CANVAS BASKETS — 16-page illustrated booklet describing the Lane line of canvas baskets for textile use. — W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1009. HOW TO TEST CORRUGATED BOXES — 24-page booklet offers a comprehensive check-list by which to judge the protective qualities and durability of specific corrugated boxes. — HINDE AND DAUCH, Sandusky, Ohio.

1010. CONVEYOR KEY BOOK — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

1015. OVERHEAD MATERIALS HANDLING — Three booklets available from Louden Machinery Co. treat economical material handling, twin fan ceiling cleaners, and shock proof electrification. — LOUDEN MACHINERY CO., Fairfield, Iowa.

1018. BALL BEARING TROLLEYS — 20 page catalog by Link Belt describes entirely new line of ball bearing trolleys for overhead conveyors. Contains pictures, specifications, charts and diagrams. — LINK-BELT CO., 307 North Michigan Ave., Chicago 1, Illinois.

1019. HOW TO SELECT A LIFT TRUCK — An equipment analysis guide and rating table has been introduced by Hyster for comparison and selection of fork lift trucks. Gives an excellent means for price comparison between trucks of a similar nature. — HYSTER CO., 2902 N. E. Clackamas St., Portland 8, Oregon.

1020. "HOW TO SEAL CORRUGATED SHIPPING BOXES" — 24-page publication features new format, illustrations and text material, thoroughly revised to explain all facets of modern package sealing. Write HIND & DAUCH, Sandusky, Ohio.

1021. CORRUGATED CONTAINERS — Brochure by Gaylord describes Multi-Unit and Bulk Containers which have been adapted for the textile field. — GAYLORD CONTAINER CORP., 111 N. 4th St., St. Louis 2, Mo.

1022. INDUSTRIAL TRACK EQUIPMENT — Color booklet describes SAFE-RAIL track developed as a supplement to the ZIG-ZAG power conveyor. Complete engineering data included. — RICHARDS-WILCOX MFG. CO., Aurora, Ill.

1024. IMPROVED MATERIALS HANDLING — Booklet entitled "Materials in Motion . . . by National" describes the use of lightweight vulcanized fiber containers to increase efficiency, reduce costs and simplify methods of materials handling. Write NATIONAL VULCANIZED FIBRE CO, 1056 Beech Street, Wilmington 99, Del.

1030. CDF RECEPTACLES — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1033. STRESSES ON OVERHEAD TRACKS — Booklet describes in detail stresses developed in various type tracks used for overhead materials handling systems. Track peening also covered. — CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both downstroke and upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1105. SHADOGRAPH WEIGHING DEVICES — Bulletins describe scales for weighing, dyestuffs, cotton samples, wool yarn, cones of yarn. Pictures and complete information on each type of scale included. — EXACT WEIGHT SCALE CO., Columbus 8, Ohio.

1111. BRUSHES — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. —GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. THE RANDOM WEB PROCESS — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. —CURLATOR CORPORATION, TEXTILE DIVISION, 561 W. Commercial St., East Rochester, N. Y.

1113. MACHINE KNIVES — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1116. LITTLE PACKAGING LIBRARY — Series of booklets by Hinde & Dauch provides complete information on shipping in corrugated boxes. A must in every shipping department. — HINDE & DAUCH, Sandusky, Ohio.

1122. BALING PRESSES — Bulletins available describing this compan's line of motor-driven and hydraulic baling presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3159 West Burleigh St., Milwaukee, Wisconsin.

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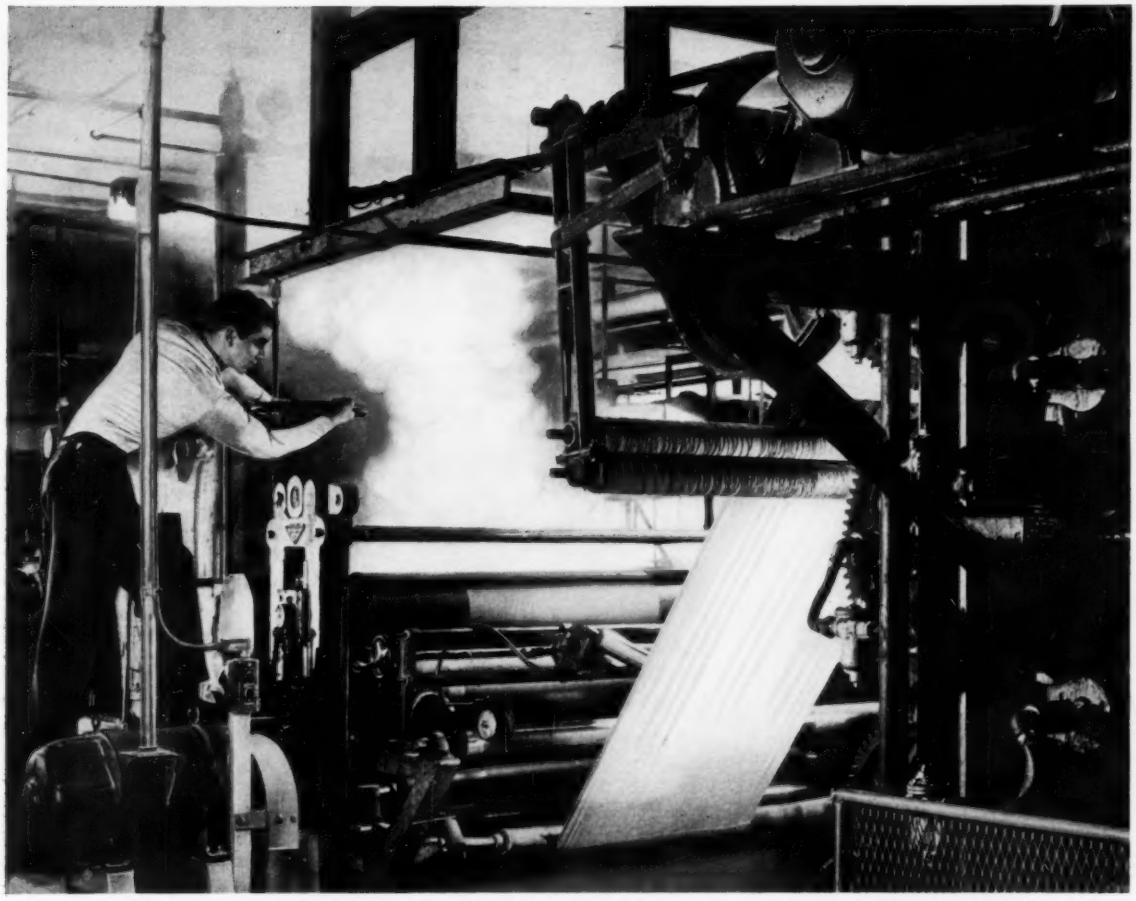

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Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 39)

a director of Bestok Underwear Co., Inc., Tower City, Pa.

Recently named controller of the textile division of Fulton Bag & Cotton Mills, Atlanta, Ga., was **Warren Danner,** formerly cost department manager for the Eagle and Phenix division of Reeves Bros., Inc., Columbus, Ga.

Reginald Fant, who was overseer of carding at Stanrich Mills Corp., Inc., North Oxford, Mass., now holds a similar position with George E. Duffy Manufacturing Co., Worcester, Mass.

Ben Heller has stepped up from vice-president to the presidency of William Heller, Inc., while his father, **William Heller,** who has just relinquished his son's new position, has been named president of Sidney Blumenthal and Co., both New York firms. The elder Mr. Heller has

Wm. Heller

Ben Heller

severed all activities with the firm which he founded and which bears his name, except that he remains a director. In his new post he directs production, merchandising, and sales programs. **Malcolm G. Jones** has resigned as president of the Blumenthal firm and as a member of the board of directors.

Now boss dyer at Warren Fabrics, West Warren, Mass., is **Edward J. Cook;** and boss carder is **George Hathaway,** formerly a carder at Guilford (Me.) Woolen Mills.

Former superintendent of Ace Woolen Mills, Cleveland, Ohio, **Ben Cooper,** is now manager and part owner of Merrimack Textile Fibers, Lowell, Mass.

Transferred from Clarksville (Ga.) Mills to The Virginia Woolen Co., Winchester, Va., as personnel manager is **George A. Jarrard,** replacing F. L. Largent, Jr., who had been vice-president for administration. Both plants are units of United Merchants and Manufacturers, Inc.

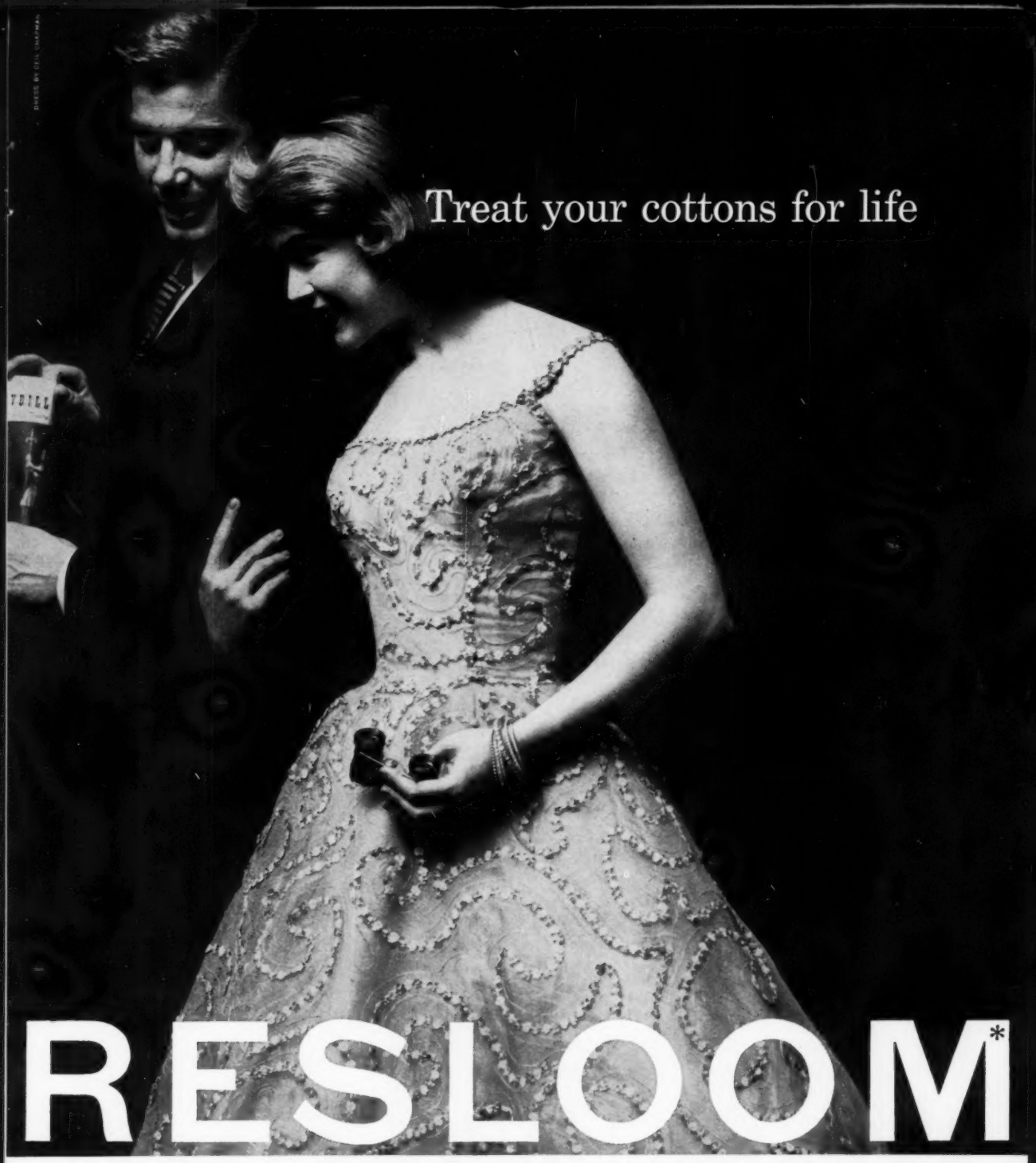
Everett L. Kent, Kent Manufacturing Co., Clifton Heights, Pa., and Philadelphia Textile Institute Foundation president, has been elected by the campaign committee to head the 1956-57 drive for funds for the Foundation. Other members of the committee include **Bertrand W. Hayward,** PTI president; **W. L. Holmes, Jr.,** Archibald Holmes & Sons, and chairman of the board, PTI; **Edward Rakestraw,** Hyde-Rakestraw Co.; **Ralph Whitaker,** Fred Whitaker & Sons; **Lindsey A. Mason,** Philadelphia Dye Works; **DeHaven Butterworth,** H. W. Butterworth & Sons, and **Alan M. Richter,** director of public relations, PTI; **Richard S. Cox,** dean emeritus, PTI; **R. A. Lukens,** Continental Mills, Inc.; **Russell C. Osborne,** R. C. Osborne & Co.; **Leon P. Brick,** Onyx Oil & Chemical Co., and **Ingram Bergman,** Bergman Knitting Mills.

Joseph D. Linville has assumed his new duties as overseer of the preparation department at Statesville (N. C.) Division of the Seminole Mills. Mr. Linville, who was previously associated with the Duplan Corp. at Winston-Salem, replaces **H. C. Nixon** who has been promoted to assistant plant manager. Seminole Mills is a unit of United Merchants & Manufacturers, Inc.

A textile executive was chosen as the third recipient of the "Human Rights Award" made annually by the Joint Defense Appeal, the sponsoring agency for the American Jewish Committee and the Anti-Defamation League of B'nai B'rith. **Leon Lowenstein,** chairman of the board of M. Lowenstein & Sons, was so honored at a dinner in New York in October at which he received the award.

Lorne R. Campbell, formerly secretary and general counsel for Grayson-Millis Hosiery Mills at Independence, Va., has been made general manager and executive vice-president, filling the vacancy created by the resignation of H. A. Millis, Jr. Mr. Campbell holds the same position with David Hosiery Co., new Independence manufacturing plant, and partner of Grayson-Millis.

Herman Ruhm, president of Burlington Industries, has been appointed textile industry fund-raising chairman for the New York state citizens



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Four words summarize the remarkable effectiveness of Resloom E-50 when used to finish cottons: *It doesn't wash out!*

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Personal NOTES ABOUT MEN YOU KNOW

committee for the public schools, a non-profit organization for the promotion of better schools for all children of the state. * * * **Joseph A. Golden,** N. Y., is president; **Ely R. Callaway, Jr., George L. Staff, Carl J. Wiedmann,** and **Norman L. Duberstein,** all of New York, are vice-presidents of Raeford Worsted Corp., Greensboro, N. C., a new sales company and member of Burlington Industries.

After 14 years association with the Phoenix Hosiery Co., Milwaukee, Wis., **A. Foster Sheller** has relinquished his position as vice-president in charge of production to open Manz Management Consultant services with offices at 1083 N. Perry Court, Milwaukee.

The appointment of **Sidney Steifler** as technical assistant to Dr. Gerald Laxer, director of science and technology of The Wool Bureau, has been announced. Mr. Steifler previously served with the Southwell Combing Co. in North Chelmsford, Mass., where he was in charge of the physical testing department.

Standard - Coosa - Thatcher Co., Chattanooga, Tenn., announces the transfer of **Charles G. Voss** from its Gadsden, Ala., operations to Chattanooga where he will assume the post of technical superintendent of the Ridgedale plants.

Mr. Voss

Mr. Gurley

Appointment of **Martin H. Gurley, Jr.,** as general manager of the textile division of the Thermoid Co., Trenton, N. J., has been announced. Mr. Gurley had been associated with the Duplan Corp. as manager of the technical department.

At Fieldcrest Mills, Inc., Spray, N. C., **R. H. Turner** has been named foreman of slashing and weaving at the Fieldale Towel Mill. Mr. Turner had been assistant processing engineer for the worsted division (comprised of seven plants) of Burlington Industries, Inc., with headquarters at Halifax, Va. **Clinton J. Frank, Jr.,** formerly with Procter & Gamble where he was engaged in all phases of industrial relations, including union negotiations and arbitrations, has been appointed director of industrial relations. **Benjamin Thomas, Jr.,** has assumed his duties as assistant manager of the Synthetic Fabrics Mill. Mr. Thomas had been in business for himself in Pembroke, N. H., just prior to joining the Fieldcrest staff, and had previously had wide experience in the textile industry. Three new appointments in the manufacturing organization are as follows: **Ernest W. Sams** was named the company's first traffic manager, reporting to S. R. Fifield, vice-president in charge of purchasing. Mr. Sams was formerly traffic manager for American and Efird Mills at Mt. Holly, N. C. **Robert H. Hair** has joined the comptroller's department assigned to accounting methods and procedures, replacing W. C. Spaugh. Mr. Hair formerly was with Procter & Gamble Co. in Kansas City, Mo., and Cincinnati, Ohio, in industrial engineering and cost control work. **George S. Brandon** has been appointed cotton receiver, replacing the late W. E. Tucker. Mr. Brandon was previously associated with M. Lowenstein & Sons, Anderson, S. C., as cotton classer.

The Kendall Co., Pelzer, S. C., has announced that **W. Herman Taylor,** who has been assistant to the works manager in Charlotte, has been transferred to a post as manager of the Pelzer plants. Mr. Taylor succeeds **Jack B. Baker** who has been transferred to Charlotte as divisional works manager, succeeding **L. A. Savage** who is now divisional manager in the company's cotton mills division. Mr. Savage replaces **H. K. Hallett** who will retire on January 1, continuing to serve on the company's board of directors.

In the recent transfer of the non-woven unit to Elmrose Division from the Research and Development division at Callaway Mills Co., LaGrange, Ga., **Ira B. Grimes, Jr.,** non-woven unit supervisor, will continue in charge of manufacture of non-woven textiles. **Wayne Hays,** previously tex-

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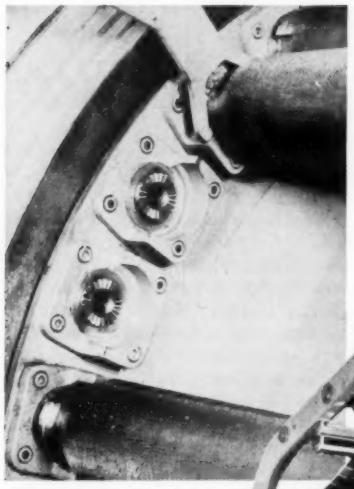
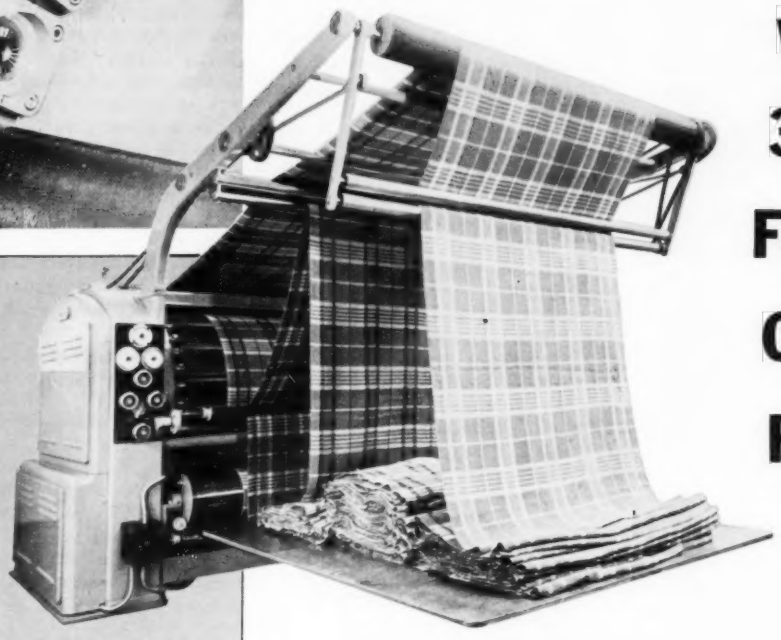


MONFORTS RZ Napper Gives a Better Finish with 30% Fewer Cloth Runs



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A considerable number of American mills are already using RZ Nappers. These, without exception, report that the positively controlled and synchronized speeds of the napping rollers produce the finest finish on the market on all types and qualities of cloth. They also report great savings in machine time and in labor due to the RZ Napper's high speed (45 yds. per minute) and the fewer cloth runs required.

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Personal NOTES ABOUT MEN YOU KNOW

tile technologist for the research and development division, serves as sales engineer. The unit is under the general supervision of **B. P. Albright,** assistant vice-president, Elmrose Division.

In addition to his duties as manager of American Felt Company's Newburg, N. Y., mill, **R. P. Frazer, Jr.,** has assumed charge of all manufacturing operations of the company.

Columbia Mills, Inc., Syracuse, N. Y., have announced the election to presidency of **Robert A. Harper,** succeeding the late Edward F. O'Reilly. Mr. Harper had been vice-president of the firm.

Filling the newly created position of vice-president in charge of all Ban-Lon and related operations at Rose Mills in Philadelphia, Pa., is **Alan W. Vint,** who was previously assistant vice-president in charge of research and new products at American & Efird Mills, Mount Holly, N. C.

Albert G. Thomas, formerly overseer of carding at Warren Fabrics, West Warren, Mass., is now card room overseer at Worcester Woolen Mills, Cherry Valley, Mass.

Obituaries

Robert Knox Argo, 47, personnel and public relations director for Alabama Mills, Inc., Birmingham, Ala.

James Morrell Bennett, 41, general superintendent of Rock Hill (S. C.) Printing & Finishing Co.

Arthur J. Boyer, 67, Philadelphia sales representative for E. F. Houghton & Co., oil, chemical, and packing manufacturers in Philadelphia, Pa.

Ferd Falk, 69, retired district manager for New England Waste Co., Charlotte, N. C.

Isaac D. Hopper, 57, former overseer of carding, Gayle Plant, Springs Cotton Mills, Chester, S. C.

Fred G. Lapiana, 71, retired director of textile research for Stein, Hall & Co., New York City.

Edward F. O'Reilly, 61, president of Columbia Mills, Syracuse, N. Y.

Stanley H. Wheelock, 77, president and treasurer of Stanley Woolen Mills, Uxbridge, Mass.

What the TEXTILE MILLS are doing

The Southside Plant of **Abney Mills** is featured on the cover of the new Calhoun Hotel Coffee Shop menu. Listed in addition to the cut are the sixteen other Abney Mills' plants located in South Carolina. * * * Sixty supervisory employees of Abney Mills recently received their certificates of graduation for having successfully completed the Dale Carnegie course in Effective Speaking, Leadership Training, and Human Relations. Along with the group, M. Herbert Seigler, general manager of the Anderson, Belton, and Courtenay plants, received his certificate.

The **American Thread Co.** has donated to the school board of Tallapoosa, Ga., $7500 for purchase of athletic equipment for the new gymnasium there.

The **Austin Knitting Mills, Inc.,** Albemarle, N. C., has opened a new finishing plant in that city. The (15,000 sq ft) plant will be used in the production of women's full-fashioned sweaters.

Patents relating to novel woven fabrics with puffed portions in a three dimensional pattern have been issued to the Lumite Division of **Chicopee Mfg. Corp.** The fabric, Lum-Puf, is used for automotive upholstery and seat covers, and as upholstery for indoor, outdoor, and office furniture.

Everett Textile Mending Co., Lawrence, Mass., has opened a branch burling and mending plant, which will employ about 100 people, in a part of the former Goodall-Sanford Mills, Sanford, Me.

Upon the completion of an 80,000 sq ft plant, now under construction, in Mount Vernon, N. Y., **Empire Rayon Co., Inc.,** will move to that location.

The **Clinton (S. C.)-Lydia Cotton Mills,** and **Joanna (S. C.) Cotton Mills** have donated to Clinton (S. C.) high school a drawing frame, card, roving frame, spinning frame, four looms, and a draw-in stand. The equipment is to be used in a two-year high school textiles course. Laps and

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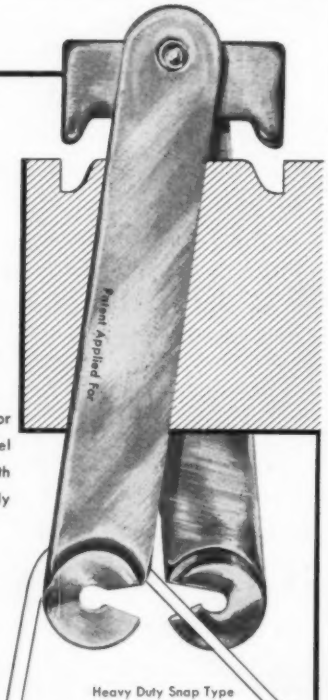

*Patent Applied For

Heavy Duty Snap Type

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

warps also will be furnished by the two firms.

In recent ceremonies held at Clarkdale, Ga., **Coats & Clark, Inc.,** celebrated 25 years of thread manufacture in the state of Georgia. From a relatively small beginning in Clarkdale in 1931, Coats & Clark, Inc., has expanded its operations to Toccoa, Pelham, Acworth, Albany, and Thomasville, and now employs about 5000 people. More than 2000 employees attended the giant barbecue which was held on the mill grounds.

Coronet Carpets, Inc., has begun operations at 410 S. Pentz St. in Dalton, Ga. The firm produces tufted broadlooms. Being installed is the latest design in tufting equipment to enable the company to produce all styles of tufted rugs including cut pile, loop pile, and sculptured loop pile in 9-, 12-, and 15-foot widths. M. B. Seretean, formerly with Katherine Rug Mills, Inc., is president.

The Cooleemee, N. C., plant No. 3 of **Erwin Mills, Inc.,** has been awarded a safety plaque for having worked 1,705,885 man-hours in 1955 with only two injuries, for a frequency of 1.17. The plaque, given by the North Carolina Industrial Commission, and the North Carolina Manufacturers Association, marks the third such safety award for the No. 3 plant in four years.

The **Ferro Corp.,** Nashville, Tenn., makers of nonwoven reinforcement mats, is expanding its fiber glass textile plant to include a weaving operation for the production of fabrics for the reinforced plastics industry. The firm is building a $500,000, 18,000 sq ft structure to house the operation. Plans call for an initial installation of 30 looms, and the addition of about 80 employees.

Gloversville (N. Y.) Knitting Co., has completed plans for the purchase of Ackshand Knitting Co., Inc., Ballston Spa, N. Y., according to a recent announcement. The move was undertaken in an effort to increase efficiency by combining the resources, volume, and know how of the two firms. No changes in merchandising or distributing are anticipated.

A 30% increase (app.) in the size of the Halifax (Va.) Worsted Mills is planned by **Burlington Industries, Inc.** The increase will be in the amount of some 50,000 sq ft of floor space added to the present space of 165,000 sq ft. Since some of the new space will be devoted to offices and storage, a corresponding increase in the present employment figure of 700 will not take place.

In a recent announcement, William S. Griffin, president of Griffin Hosiery Mill, Burlington, N. C., made known the purchase of the idle Louise Knitting Mills, Durham, N. C. The purchased plant will resume operations under the name of **Imperial Hosiery Mill,** and as a separate company. The plant consists of a two-story, 42,000 sq ft building on Maple St. The essential production will be low priced men's work socks.

A recent announcement indicates that the Kingstree (S. C.) Mfg. Co. plant of **Deering, Milliken & Co., Inc.,** is scheduled to begin full operations soon. The plant is to receive additional machinery. The fiber-to-fiber operation will produce suiting and woolen dress goods. James Vernard is superintendent.

It has been announced that **Lee Hosiery Finishers, Inc.,** Mt. Pleasant, Tenn., has leased the Saluda, S. C., finishing plant of Palmetto Full Fashion Hosiery Mill, Inc., for custom work. The plant has begun operations on an independent basis under the direction of Lou Finkle.

As part of a modernization program, **Linn Mills Co.,** Landis, N. C., has purchased 32 deliveries of drawing, 10 combers, and 9 spinning frames.

The stockholders of Newnan (Ga.) Cotton Mills have ratified the sale of all the firm's assets to **Mount Vernon Mills, Inc.** The 35,000 spindles at Newnan bring the total spindles now operated by Mount Vernon to 197,000. Karl B. Nixon, president of Newnan, will remain as agent, and along with Hamilton C. Arnall, will be elected to the board of Mount Vernon. No immediate changes in the operating policies of the Newnan plant are planned. Newnan's New York sales offices will be consolidated with Turner Halsey Co., who will continue to sell Newnan's woven goods.

Pendleton Woolen Mills, Portland, Ore., has acquired the 85,000 sq ft plant of the former Foundation Worsted Mill of that city. The space will receive 48 looms and the supporting carding, spinning, and finishing equipment, etc., to increase the production of woolen fabrics for the

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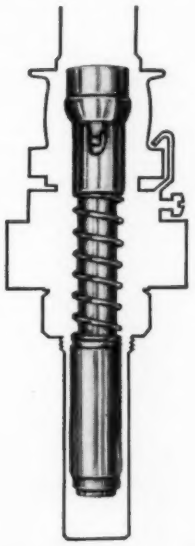

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What the TEXTILE MILLS are doing

garment factories of Pendleton Woolen Mills. Frank Learned will be in charge of the new operations.

The **North Carolina Finishing Co.**, Salisbury, N. C., has recently announced the installation of a water waste heat recovery system, and expects important savings in fuel and boiler horsepower from the equipment.

On August 25, with a barbecue and commemoration ceremonies, the employees of **Pickens (S. C.) Mill** celebrated the 50th anniversary of that firm.

Reeves Bros., Inc., has acquired the Vi-Plax Products Corp., Beverly, N. J., and the Garrison Co., South Plainfield, N. J. The two firms have been engaged in the extrusion of plastic materials, and will now be merged as a corporate subsidiary of Reeves Bros., Inc., under the trade mark Viplax.

The Paul Whitin Mfg. Co., Gilbertville, Mass., has recently ordered 16 deliveries of drawing, two 72-spindle slubbers, and 6 spinning frames totaling 1368 spindles.

West Point Mfg. Co., West Point, Ga., has ordered the equipment to effect a draft changeover on 27,600 spindles. Other equipment purchased: 160 deliveries of drawing, 52 roving frames, and 13 spinning frames. The equipment will be placed in the various mills of the group.

The Trion (Ga.) Division of **Riegel Textile Corp.** has instituted courses in Textile Finishing and Textile Chemistry. The courses, conducted by Dale Kern and being held primarily for employees in the dyeing and finishing departments, are open to any Riegel employee. The State Dept. of Vocational Education is the co-sponsor.

A new company is being formed in the United Kingdom by **West Point (Ga.) Mfg. Co.** and **Tootal, Ltd.**, of England. The firm will manufacture nonwoven goods under processes produced by West Point.

Waverly Mills, Inc., Laurinburg, S. C., at its Waverly plant, is adding 32 deliveries of drawing, and converting 7920 spinning spindles to a different draft system.

The textile division of the **United States Rubber Co.** has licensed **Collins & Aikman Corp.** to produce three-dimensional fabrics coming within U. S. Rubber's patents and patent applications. The license permits Collins & Aikman to make, use, and sell fabrics "incorporating contractible strands to achieve three-dimensional fabrics" in the United States and its possessions.

Mac Hosiery Mill of Granite Falls, N. C., has been incorporated under the ownership of Mr. and Mrs. Fred M. Smith of Hickory, N. C., and Harry L. Beal of Granite Falls.

Madaris Hosiery Mill, Hickory, N. C., has been incorporated under the ownership of William C. Madaris, Sr., Jewitt Madaris, and Walter Huffman, all of Hickory.

A fire in the warehouse area of the Clemson, S. C., plant (Utica-Mohawk Div.) of **J. P. Stevens & Co., Inc.**, is reported to have caused estimated damage of $5,000 to $10,000.

Deering, Milliken & Co., Inc., has purchased 78 shuttleless weaving machines from the liquidating Cleveland (Ohio) Worsted Mills Co. The equipment will be placed in various plants of the purchaser. * * * Spinning equipment amounting to 30,000 spindles has been ordered for the Gainesville, Ga., and Pacolet, S. C., plants of Pacolet Mfg. Co. The equipment is to be divided almost equally between the two plants.

In planning to expand its manufacturing and warehouse facilities, the **Patchogue-Plymouth Corp.** has purchased 20 acres adjacent to its Hazelhurst, Ga., plant. The present installation is a one-story 120,000 sq ft building.

In a recent exercise, 42 managers and supervisors of the cotton and spun fibers division, group 2, of **J. P. Stevens & Co., Inc.**, received their graduation certificates from a company-sponsored Dale Carnegie course in effective speech and human relations.

According to a recent report, the cotton converting facilities of Hesslein & Co., Inc., have been purchased

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by **Dan River Mills, Inc.** The purchase included also the entire inventory of the converted cloth division.

Installation of 50 new 264-spindle spinning frames and six slubbers at **Jackson Mills** in Iva, S. C., is scheduled for completion early next year.

It has been announced that **J. B. Martin Co.** plans to erect a 50,000 sq ft building in Leesville, S. C. The operation, to employ about 50 people, will be the firm's first in the South.

The commission weaving plant, **Millbury Mills,** has moved from W. Main St., Millbury, Mass., to S. Main St., Webster, Mass., in building No. 5 of the former American Woolen Mills.

Southerland Fabrics, Inc., Graham, N. C., has changed its name to **Southerland Mills, Inc.**

In the July 1956 issue of "Ties," the employee publication of the Southern Railway System, is a six-page story devoted to the history and growth of **Springs Cotton Mills,** Lancaster, S. C. The article states that four of the "five men named Springs" were instrumental in the growth of railway systems which later became part of the Southern Railway System. This was done while the men also were building the groundwork of the Springs Cotton Mills.

A new parking lot at **Union Bleachery,** Greenville, S. C., has been completed. The lot is fenced with the gates either locked or under the supervision of a watchman to provide maximum security for the car owners. Floodlights illuminate the area at night.

Woonsocket Worsted Corp., Laurens, S. C., has changed its name to **Woonsocket Laurens Corp.** A new president, Harold Samson, succeeds Ed Farnell, who remains as vice-president.

J. P. Stevens & Co., Inc., has opened a sales office in Charlotte, N. C., to be managed by David W. Foster.

SUPPLIERS News
WHAT THEY ARE DOING

American Cyanamid Co. will construct a plant near Pensacola, Fla., to produce a new acrylic textile fiber, Creslan. Alden R. Loosli has been named general manager of the newly formed fibers division which will select and direct the organization required in the production and marketing of Creslan. Annual production is expected to be 27 million pounds of staple and tow. Other appointments in the fibers division include: W. L. Lyall, sales manager and N. H. Marsh, who will be manager of the Florida plant. Construction is expected to begin in December, 1956, and when completed around the middle of 1958, the plant is expected to employ about 350 people, including more than 50 chemical engineers and technicians. Sales and technical service headquarters will be set up in New York City. * * * A program to produce an improved line of more than 45 Calcoloid Vat Pastes with controlled particle size, called the Calcoloid CPS line for maximum efficiency and economy in vat dyeing, has been completed, and the dyes are now available to the textile industry. Among other benefits claimed for the improved line of vat dyes are maximum resistance to specking, aggregation, settling in pigment padding of cloth, and maximum fastness qualities.

R. H. Cline, formerly manager of the Charlotte, N. C., district for **Allis-Chalmers,** is now manager of the Pittsburgh, Pa., district of the company's industries group, succeeding J. K. Keogh, who continues as a special representative. At Mr. Cline's old post is C. B. Rumble, Jr.

Executive changes in home office personnel of **American Air Filter Co., Inc.,** include the promotion of Robert W. Nelson, vice-president, formerly executive assistant to the director of sales, to a post as director of the newly established administrative central staff. John Hellstrom, vice-presi-

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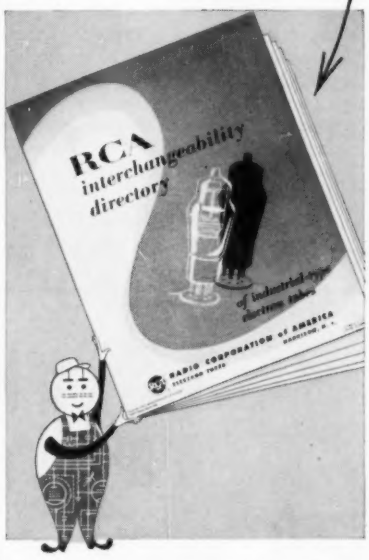

RCA INTERCHANGEABILITY DIRECTORY OF INDUSTRIAL-TYPE ELECTRON TUBES contains 16 pages of time-saving information for those who specify or purchase replacement tubes for industrial electronic equipment. Listing industrial tubes of 26 manufacturers and the equivalent RCA-type designations—approximately 2000 types in all—this DIRECTORY covers Vacuum Power Tubes, Vacuum and Gas Rectifiers, Thyratrons, Ignitrons, Magnetrons, Cold-Cathode (Glow-Discharge) Tubes, Phototubes, Oscillograph Tubes, Camera Tubes, and Receiving-Type Tubes for Industry and Communications.

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RCA ELECTRON TUBES...LONG-LASTING, DEPENDABLE...AVAILABLE THROUGH YOUR RCA TUBE DISTRIBUTOR.

SUPPLIERS News — WHAT THEY ARE DOING

dent and director of sales, has acquired the administration of the American Air Division in addition to his other duties, succeeding W. G. Frank. James W. May has been appointed director of technical training to provide personnel for future sales, technical, and supervisory positions in the company.

The American Finishing Co. has become a finishing licensee for both Milium and Avisco. Under the Milium division of Deering, Milliken & Co., Inc., license, the firm will specialize in finishing cottons and cotton blends, nylon and asbestos cloths with the Milium process. With the American Viscose Co. license, rayon and acetate will be finished under the Avisco Integrity Plan of Quality Control, all fabric finishes to meet the requirements of the American Standards Association L-22.

The American MonoRail Co. announces the transfer of E. Forrest Kulp, formerly district manager of its Charlotte, N. C., office to manager of its Cleveland, Ohio, district sales office. V. Wellborn Cook replaces Mr. Kulp at Charlotte.

Atlantic Steel Co. recently announced the completion of its new three-story administration building in Atlanta, Ga. The new building, which has more than 35,000 square feet of floor area, provides space for the company's executive and sales offices, fabricating engineering, purchasing, advertising, and accounting departments. * * * Howard B. Johnson, formerly vice-president in charge of sales and finance, has been named executive vice-president.

Robert A. Olney has joined the product development department of the chemicals division of **Atlas Powder Co.** Mr. Olney, a chemist, was previously associated with Procter & Gamble Co., doing product research and development work in textile finishes, detergents, and fiber lubricants.

The New York office of the textile fibers department of **Carbide and Carbon Chemicals Co.**, a division of Union Carbide and Carbon Corp., has moved to larger quarters on the 17th floor, 100 E. 42nd Street.

Oscar S. Lapham has joined the sales staff of **Carter Traveler Co.**, and will cover the New England states, N. Y., and Pa., with headquarters at 139 Main St., East Greenwich, R. I.

R. Wayne Harrison, who has joined **The Chemstrand Corp.** in a sales capacity, has been assigned to the southern district sales office at Charlotte, N. C., where he will handle sales for both Acrilan acrylic fiber and Chemstrand nylon. Mr. Harrison was formerly associated with Amerotron Corp. as production planning manager.

Two $500 scholarships in textile chemistry have been presented to Clemson College by **Ciba Co., Inc.** * * * North Carolina State College School of Textiles is also the recipient of two scholarships in the same amount by Ciba.

Clark Equipment Co. has moved its service school from Jackson, Mich., to completely new quarters at Battle Creek, Mich.

Ernest J. Hill has been appointed sales manager of **Colton Chemical Co.**, a division of Air Reduction Co., Inc. Mr. Hill will be in charge of sales representatives and agents for the Colton line including Vinac polyvinyl emulsions—used as coatings in paper, leather, fabrics and textiles, for textile sizings, etc.

Newly appointed as West Coast district sales manager, industrial division of **The Dobeckmun Co.** is David C. (Dusty) Roads who will supervise the sale of the firm's industrial materials throughout eleven Western states.

At **Dow Chemical Co.** Ralph C. Hand has moved up from the post of customer service chemist to head the textile section of the coatings technical service, succeeding Manson C. Carpenter. Mr. Carpenter has been advanced to succeed Fred K. Quigley, Jr., as head of technical and development activities in connection with latex paints, and Mr. Quigley has moved up to the post of coatings technical service assistant manager.

Aetna Industrial Corporation has purchased the Graton & Knight Co., and the new corporation will be

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SUPPLIERS News
WHAT THEY ARE DOING

known as **Graton & Knight Co., Inc.,** which will continue operations as before the transfer of assets. Subsidiary International Packings Corp. assets were not included in the sale.

S. H. Williams, vice-president of **General Aniline & Film Corp.,** has been promoted from general sales manager to assistant general manager, dyestuff and chemical division.

General Electric Co. has announced the election of Carter L. Redd as commercial vice-president for the southeastern district, succeeding Claud J. Hendon who, following a series of recent illnesses, has requested retirement at the end of the year. Mr. Hendon will have been associated with the company for about thirty years. In his new post, Mr. Redd will direct regional customer relations activities and serve as company spokesman for 92 GE departments in seven states, Ga., Ala., Miss., Fla., Tenn., N. C., and S. C.

Mr. Mather
Goodyear

Mr. Whitcomb
Va.-Carolina

Mr. Stephens
Powers

Mr. Howell
Stickley

Goodyear Tire and Rubber Co. has assigned Frank A. Mather as special representative to the Philadelphia district of its chemical division. In his new assignment, Mr. Mather will work primarily in the sale of Chemigum, Pliolite, and Pliovic latices for textile applications and will also handle sales and service requirements for the paper industry.

Lee B. Whitcomb has been designated sales manager of the fiber division of **Virginia-Carolina Chemical Corp.,** with headquarters remaining at the company's New York offices, where he has been in charge of Vicara sales for woven fabrics and export.

Appointment of R. E. Stephens as textile applications engineer has been announced by the **Powers Regulator Co.** Mr. Stephens will service textile manufacturers in the Southeast, working out of the Greensboro, N. C., office. He was formerly with J. P. Stevens & Co., Inc.

R. F. Howell, Jr., former buyer and salesman for the Railway Supply & Manufacturing Co., has joined **John L. Stickley & Co.** as a sales representative, calling on the textile trade. He will work out of the Charlotte office and will represent the firm's full line of yarn and raw materials.

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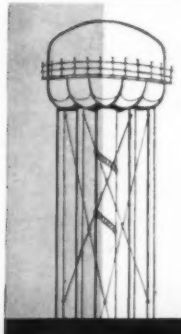

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PRECISION BUILT

Mr. Gill
Booth

Mr. Britton
Hilton-Davis

Mr. Graham

Mr. Stroupe
The Trane Co.

The Benjamin Booth Co. is now represented in New England by the Chrysler Company, a subsidiary of R. H. Hood. Wm. F. Gill is head of Chrysler's sales to textile mills. Supr-O-Band, a new banding for spindle drives, has recently been announced by Booth.

Edward J. Britton has been appointed technical sales representative servicing the textile industry in New England for the **Hilton-Davis Chemical Co.**, with headquarters in Providence, R. I. In his new post, Mr. Britton will call on the trade on all problems relating to the use of dyestuffs and pigments.

General Latex and Chemical Corp. announces the following changes and additions in its sales organization: W. H. Jefferson has joined the sales staff to act as supervisor in the Ashland, Ohio, territory; Lawrence F. Haemer has been transferred as sales representative from the Metropolitan New York area to N. J., Pa., Del., and Md.; J. E. Gingrich has been appointed sales representative in S. C., N. C., and Va.; William J. Watson, sales representative in Ashland, Ohio; W. W. Seward is new general manager for Georgia and will continue to act in his capacity as sales manager of the territory served by the Dalton plant. T. G. Tierney has been named sales representative in the midwestern territory. * * * The firm has opened its second plant in Canada at Brampton, Ontario. Superintendent is Clayton Sturgeon, and Ronnie Perego is the chemist in charge.

Jones, Gardner & Beal has announced the election to vice-president of Harry Allen of Spartanburg and Walton Scott of Providence. Rivers Avery has been made assistant treasurer. Malcolm D. Raworth, who has been with Jones, Gardner & Beal since 1929, is retiring November 1, 1956. He is moving to Natchez, Miss., where he will be associated with Tullis, Craig & Bright of New Orleans.

Two personnel changes in the sales office of **The Trane Co.** have been announced. William D. Graham, Jr., who has headed up the sales staff in Greensboro, N. C., for four years, has been promoted and transferred to the home offices in La Crosse, Wis., for specialized assignment. E. A. Stroupe, Jr., assistant manager at Greensboro, is the new manager. In his new assignment, Mr. Graham will utilize his field work experience by specializing in sales office operation and procedure as part of the general sales staff. His primary efforts will be directed toward augmenting liaison between field and home offices. Mr. Stroupe started with Trane in 1950 and has been with the Greensboro office since that year.

The Harshaw Chemical Co. has established a wholly-owned English subsidiary, Harshaw Chemicals Limited, with offices, manufacturing plant, and laboratories at Waltham Cross, London, England. A. C. Benning is manager and S. E. Pross, Hounslow, has been made assistant general manager.

Edward T. Hanna, field sales representative of the industrial chemicals division, **Olin Mathieson Chemical Corp.**, has been transferred from Philadelphia to the company's Cincinnati sales office in the Dixie Terminal Building. John U. Walker has been named to succeed him in Philadelphia.

Metlon Corp. has surveyed the European market and reports a steadily increasing importance of metallic yarns in linen fabrics generally and in table linens particularly. Under the general direction of Monsieur J. Legon, managing director of the Blanchisserie de Courtrai, (Belgium) and R. M. Freydberg of Metlon, laboratories of the two firms are conducting a series of experiments to evolve a program whereby manufacturers of linens using Metlon with Mylar (Du Pont's polyester film)

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can be assured of absolute uniformity and dependability of color, finish, quality and serviceability of products woven with Metlon-Mylar and finished at the Blanchisserie de Courtrai. Results of the program will be available to bleachers and finishers in the United States.

The creation of Commercial Finance Division, whose sole function will be the financing of firms and corporations requiring receivable and other forms of financing, has been announced by **Mill Factors Corp.** President Yankauer pointed out that "whereas old-line factoring has been confined in large measure to the textile and allied industries, non-notification, recourse financing has its definite place in other important segments of our economy. The executive personnel of Mill Factors is composed of people whose experience has not been limited solely to textiles. They can now use their accumulated knowledge in the active acquisition and servicing of financing business in diverse industries."

National Aniline Division, Allied Chemical & Dye Corp., has opened a branch office at 326 South Main Street, Akron, Ohio. In addition to others, dyestuff and detergent customers will be served from the new branch office.

To effect closer coordination between laboratory development work and field technical service at customers' plants, National Adhesives' parent company, **National Starch Products, Inc.,** has named three executives to positions of responsibility. Ralph C. McGaffin will be responsible for both the adhesives technical service department and the adhesive development department; William W. Sederlund will be in charge of the adhesive development department, responsible for the development work on all adhesives, regardless of composition with the exception of those for structural application; Samuel Gold will be in charge of adhesive technical service at National's Alexander Research Laboratory, Plainfield, N. J.

Nemo Industries, Inc., has made known that it has been chosen representative for Callebaut-De Blicquy, manufacturer of all types of stainless steel dyeing equipment, and for H. Duesberg-Bosson Fils, manufacturer of card clothing and textile leathers. Norman E. Elsas, president of the Nemo who has returned from visiting these two manufacturers in Belgium, where he personally inspected their operations, said that Nemo Industries is proud to have been selected to represent these two well established and reliable manufacturers — leaders in their respective fields.

Thomas F. O'Connor, management consultant recently in Atlanta, Ga., has opened offices at 12 E. Lewis Plaza, Greenville, S. C. Telephone 2-3841. Mr. O'Connor is the author of "Productivity and Probability" and of a number of articles bearing on machine assignments.

E. F. Houghton & Co. has moved to larger and more centrally located offices in Charlotte, N. C., at 101 N. Graham Street, Suite 202, Coddington Building.

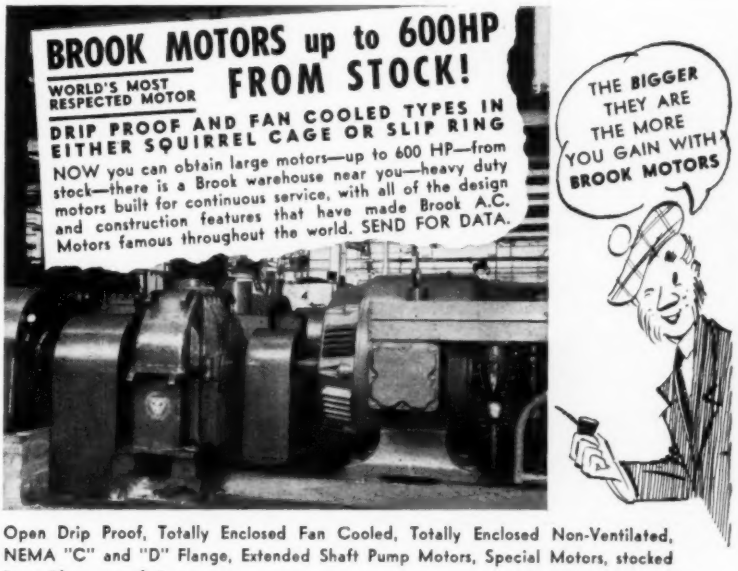
Appointed to the position of Eastern division parts and service manager for the **Hyster Company** is Duane A. Kragrud, with headquarters in the Danville, Ill., factory where he will supervise parts and service operations for both the company's industrial truck and tractor equipment divisions. * * * Jack A. Cairns has

SUPPLIERS News — WHAT THEY ARE DOING

been promoted to the position of supervisor, industrial truck division advertising and promotion, with headquarters in Portland, Ore.* * * Promoted to manager of the Washington, D. C., o.....ce and district manager of the East Central industrial truck division is Richard M. Ervin, succeeding Robert E. Lange, who is new resident manager of the Hyster plant to open in Sai Paulo, Brazil.

Instrument Development Laboratories, Inc., has moved the main office and factory to Attleboro, Mass. The complete administrative, sales, research and development, and manufacturing activities have been transferred from Needham Heights, Mass., to the new location which affords 27,000 sq ft of space.

Morse Chain Co. has announced the opening of a new branch sales office and warehouse at Charlotte, N. C., which will also serve the industry in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SUPPLIERS News
WHAT THEY ARE DOING

Fla., Ga., Ala., S. C., N. C., Tenn., and Va. Raymond H. Whitney has been named district manager for the new warehouse area.

At **Universal Winding Co.,** William V. Goodhue, recently connected with the successful development and design of the Unifil Loom winder, has been named director of research and engineering for the company, replacing Charles C. Bell who resigned in June. John V. Keith is new chief engineer for the research and engineering division. In this post he will be responsible for all textile machinery engineering engaged in by the firm. * * * Universal announces an agreement with Brush Electronics Co., a division of Clevite Corp., for the world-wide distributorship of Brush instruments throughout the textile industry, an initial step in a long-range plan to serve as headquarters for textile instruments. Patterson-Moos Division of the firm, specializing in nuclear physics and electronic research field, will provide a base for further expansion in textile instrumentation.

Mr. Mahan
Ross

Mr. Pelletier
Livermore

Mr. Lefler
Emery Industries

Mr. Connelly

The opening of a new southeastern office in Decatur, Ga., for the sales-engineering of Ross heat exchange equipment, has been announced by **Ross Heat Exchanger Division** of American-Standard. Fred M. Mahan is manager.

The H. F. Livermore Corp. announces the appointment of Jean Pelletier as sales engineer in charge of sales and distribution of Livermore products in its Canadian territory, with headquarters in Montreal. * * * The firm has purchased outright J. Banks & Son of Lowell, Mass., which has been incorporated as a wholly-owned subsidiary of the Livermore Corp. Manufacturing facilities have been transferred to Boston for future operations. Chester Hammond, Livermore president, is also president of J. Banks & Son, Inc. The new management will expand the sales activities in the New England area and also throughout the southern states where the parent company has a southern sales division.

Emery Industries, Inc., announces the assignment of Albert L. Lefler to handle sales of Emersoft softeners, Twitchell oils for Sanforized fabrics, and Twitchell wool and worsted oils

Only 4 internal parts in this self-supporting

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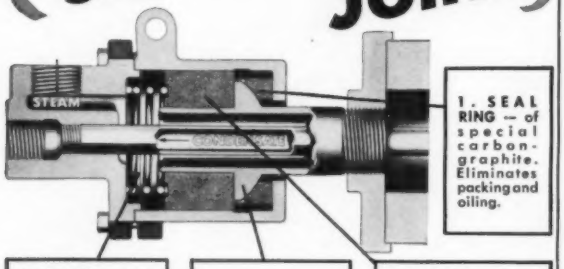
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in North and South Carolina. Mr. Lefler was previously with Sayles Biltmore Bleacheries, Inc., in the finishing of textile fabrics. * * * Robert F. Connelly has been assigned as West Coast field salesman for the organic chemical sales department and is responsible for sales of all organic chemicals including those used in the textile industry. Prior to joining Emery, Mr. Connelly was associated with the Bray Oil Co. in a research and development capacity.

Completion of the new addition to the **Texize Chemicals Plant** in Mauldin, S. C., has been announced. The new plant will be utilized for increased production of all products which include textile warp sizings, household cleaners, starches, and disinfectants to serve the entire southeastern area of the United States. All manufacturing facilities were moved to the new plant.

Union Special Machine Co. has expanded its field sales organization following a comprehensive study of its markets. In the Atlanta territory, J. V. Parker now has offices in Montgomery, Ala., to serve the southern half of Alabama and part of Florida; L. D. Baldwin is located at Birmingham to cover the northern half of the state; J. T. Hanley is concentrating his efforts in the eastern half of the state of Georgia; and the new south-central Georgia territory is being handled by R. W. Bradberry, with headquarters at Dublin. In South Carolina, V. R. Crisler's office is in Columbia where he assists M. M. Ambrose; and in North Carolina, assisting W. D. Harrod is C. W. Priddy. In the Boston territory Herman Haberman, Jr., has moved from Wakefield, Mass., to Nashua, N. H., and Gus M. Buckley is headquartering in the Worcester area. To cover the western two-thirds of Conn. and three counties in New York state, N. W. Semenyna has been appointed. The new Philadelphia sales territory is being handled by D. M. Bender with offices at Lebanon, Pa.

Square D Company has just started the construction of an electrical equipment plant on a 29-acre site in Lexington, Ky., and completion is expected in about one year. Meanwhile, the company is launching pilot operations in Lexington and has leased a 12,500 sq ft building for the assembly of special panelboards and switchboards for regional markets. Several hundred employees will be needed at the new plant.

Louis Hochstaedter, textile engineer, has been appointed technical representative in charge of sales of Rhovyl fibers for **Rhodia, Inc.,** succeeding Julian Cerf. Mr. Hochstaedter recently participated in an extended study in France of the manufacturing operations involved in producing Rhovyl, Fibravyl, Thermovyl, and Isovyl yarns, products of Societe Rhovyl. Rhovyl is a polyvinyl chloride yarn available in both filament and staple form in a number of deniers.

Frank Boufford, national accounts salesman in New York City for Yale materials handling division, **The Yale & Towne Manufacturing Co.,** has been appointed western regional sales manager, succeeding Garnett A. Vining, resigned. The territory includes the 11 most western states and western Canada.

To be completed late in 1957 is a new Charlotte, N. C., steel service plant for **Joseph T. Ryerson & Son, Inc.** with adequate floor space for stocking a comprehensive range of carbon, alloy and stainless steels. Equipment in the new plant will include 10 and 15 ton bridge cranes, a high speed friction saw for cutting structural steel shapes, plate and sheet shears, hack saws, and a mechanized flame cutting machine equipped with an electronic eye tracing device for more accurate cutting of intricate shapes from steel plate. Well rounded stocks of bar, structural, plate, sheet, and tubular steel will be carried at the new plant.

Rodney Hunt Machine Co. has announced the election of Ernest Schleusener as vice-president, treasurer, and a director. Mr. Schleusener was formerly associated with Mueller Brass Co. In his new position he will have over-all responsibility for manufacturing and financial matters.

American Pfaff Co. has announced that the territory for distribution of its industrial sewing machines by Willcox & Gibbs Sewing Machine Co. has been expanded from 22 eastern states to all 48 states.

Whitin Machine Works has launched an extensive multi-million dollar plant expansion and modernization program. The plans include the construction of a large new building and the enlargement of a second building, to increase the company's floor space in Whitinsville, Mass., by

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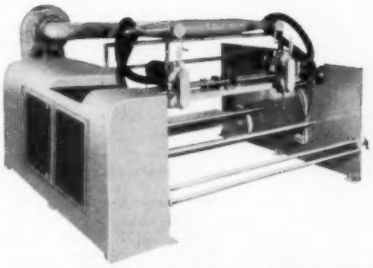

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Cleans hanging ends from both selvages of cotton, synthetic woolen and worsted cloths at one pass through the machine. Speed up to 150 yards a minute.

The new Selvage Trimmer cleans textured, terry, and similar cloths as well as dress goods without touching the face or back of the goods.

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SUPPLIERS News — WHAT THEY ARE DOING

approximately 94,000 sq ft. Construction is also being started on a new addition to the company's Charlotte, N. C., manufacturing plant, to give 36,000 sq ft more floor space. The roll manufacturing department is being transferred from Whitinsville to Charlotte. The company recently entered the business equipment field and now produces and markets an offset duplicator known as the Whitin Masterlith duplicator.

Sam'l Bingham's Son Mfg. Co. has named as manager of the industrial rolls division Paul V. Brown, who will direct the development and sales of industrial rolls to the paper, glass, textile, and steel industries.

Texize Chemicals, Inc., formally opened its new plant in Greenville, S. C., coincidentally with the Southern Textile Exposition in October. The new facilities, situated on a 22-acre tract, afford 75,320 sq ft of manufacturing space.

At the **UBS Chemical Corp.,** a $400,000 extension of the polymer emulsion plant has greatly multiplied the firm's output capacity of Ubatol, Unibac and Hycryl polymers used in paper, textile, paint, leather and other industries.

How to test the dye mergibility of spun Orlon yarns

● THE FOLLOWING laboratory procedure gives the spinner a means of determining whether blends of various Orlon staples, or yarns made after process changes within his own plant, are mergible. It also will allow a knitter to determine whether lots from an individual spinner or from various spinners are mergible.

Tubing is knit from the various lots of yarn, dyed, and examined visually for dye differences.

The method used to select production for testing is very important. For instance, the spinner should try to select at least one bobbin from each spinning frame to obtain a representative sample. The knitter should select one or more cones per carton in each shipment.

The length of time between tests will naturally depend on the volume of yarn being used. To be of maximum benefit, the test should be made by the spinner before the yarn is shipped or as soon thereafter as possible.

Tubing can be knit on a single-feed laboratory machine or a multi-feed production machine. On multi-feed machines, a clear junction between the yarns being tested can be obtained by pulling all knots through the needles to one point in the fabric.

A clear junction can be obtained on a single feed machine with no special sandling. High-bulk yarns should be knit loosely to allow them to shrink in the dyebath.

DYEING PROCEDURE. All percentages are based on the weight of tubing to be dyed. Liquor-fabric ratio for scouring and dyeing — 40:1

1. Scour the tubing with 1% Capracyl leveling salt at 160 F for 20 minutes. Rinse.
2. Dye
   Set a bath at 120 F and add:
   0.5% Capracyl leveling salt
   3.0% Du Pont Retarder LAN
   Keep the bath at 120 F for 5 minutes and add:
   2.0% Sevron Blue B, pasted with
   1.0% acetic acid (56%)
   Bring the bath to a boil slowly over a period of 15 to 20 minutes.
   Keep the bath at the boil for 1 hour with agitation. At the end of this time the bath should be completely exhausted of dye. If it is not, the dyeing temperature was too low and boiling should be continued until exhaustion is complete.
   Overflow the bath and rinse tubing.
3. Scour with 1% Capracyl leveling salt at 160 F for 20 minutes
4. Soften—optional—If a check on fabric hand is desired, a softener such as one of the following can be applied from a bath held at 120 F for 15 minutes:
   2% Avitex NA
   3% Ceranine HC
   3% Quaker Sweater Softener
   3% Creamoil 169C
5. Dry the tubing in air. The drying temperature should not exceed 230 F
   Cover the fabric with a soft cloth and press it lightly with a steam iron.
6. Examine the tubing for dye junctions. If no junctions are visible and other properties such as hand, shrinkage and physical appearance are acceptable, the yarns may be considered mergible. However, if differences in the dyed knit fabric can be detected, mergibility will depend upon what can be tolerated for the particular use for which the yarn is intended.

From Orlon Acrylic Fiber Bulletin OR-73. Textile Fibers Department, E. I. du Pont de Nemours & Co.

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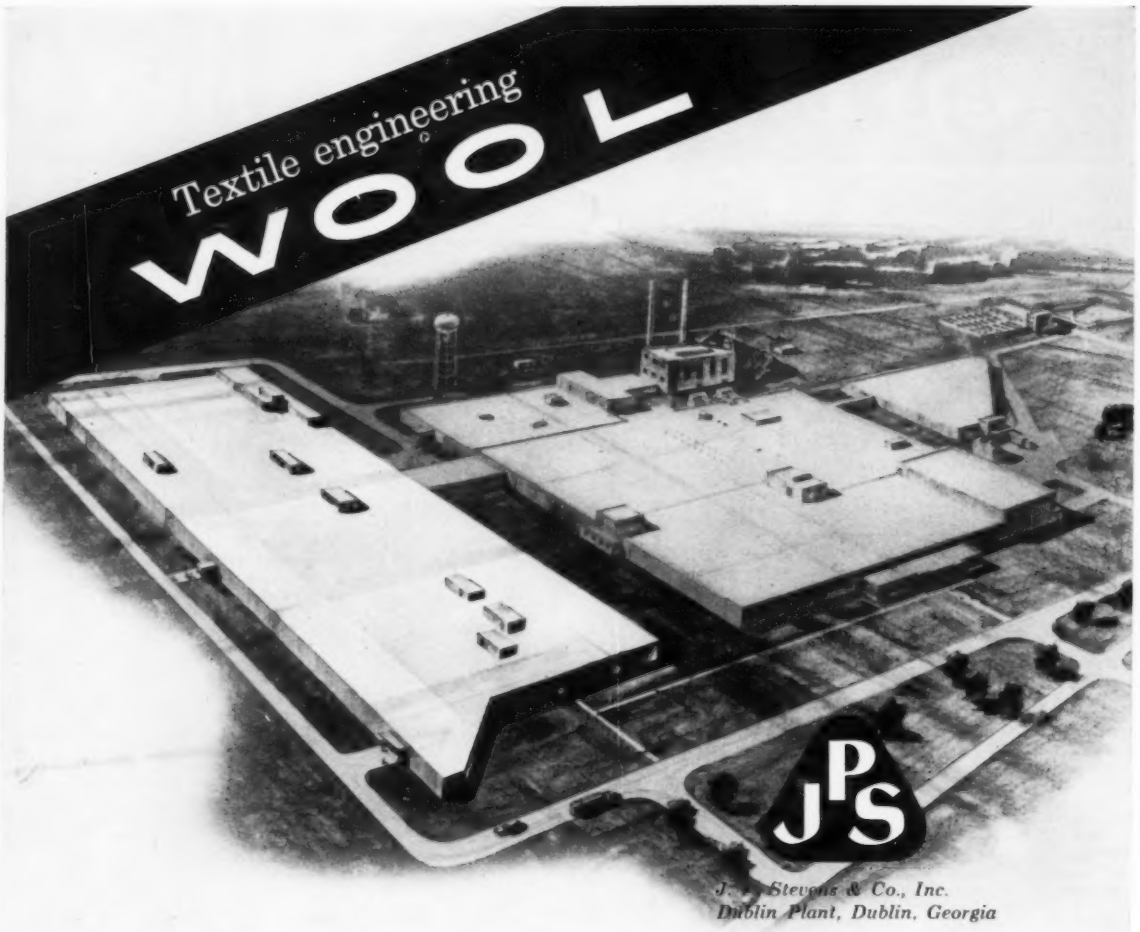

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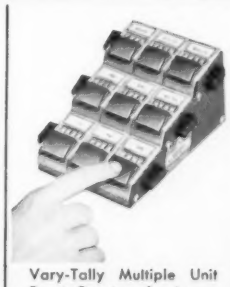

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